PROTEIN-PROTEIN INTERACTIONS
Between *Shigella flexneri* polypeptides And Mammalian Polypeptides

PRIORITY

[0001] This application claims priority on the basis of United States Provisional Application No. 60/261,130, filed January 12, 2001, the contents of which are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] Most biological processes involve specific protein-protein interactions. Protein-protein interactions enable two or more proteins to associate. A large number of non-covalent bonds form between the proteins when two protein surfaces are precisely matched. These bonds account for the specificity of recognition. Thus, protein-protein interactions are involved, for example, in the assembly of enzyme subunits, in antibody-antigen recognition, in the formation of biochemical complexes, in the correct folding of proteins, in the metabolism of proteins, in the transport of proteins, in the localization of proteins, in protein turnover, in first translation modifications, in the core structures of viruses and in signal transduction.

[0003] General methodologies to identify interacting proteins or to study these interactions have been developed. Among these methods are the two-hybrid system originally developed by Fields and co-workers and described, for example, in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference.

[0004] The earliest and simplest two-hybrid system, which acted as basis for development of other versions, is an *in vivo* assay between two specifically constructed proteins. The first protein, known in the art as the "bait protein" is a chimeric protein which binds to a site on DNA upstream of a reporter gene by means of a DNA-binding domain or BD. Commonly, the binding domain is the DNA-binding domain from either Gal4 or native *E. coli* LexA and the sites placed upstream of the reporter are Gal4 binding sites or LexA operators, respectively.

[0005] The second protein is also a chimeric protein known as the "prey" in the art. This second chimeric protein carries an activation domain or AD. This activation domain is typically derived from Gal4, from VP16 or from B42.

[0006] Besides the two hybrid systems, other improved systems have been developed to detected protein-protein interactions. For example, a two-hybrid plus one system was developed that allows the use of two proteins as bait to screen available cDNA libraries to detect a third partner. This method permits the detection between proteins that are part of a larger protein complex such as the RNA polymerase II holoenzyme and the TFIIH or TFIID complexes. Therefore, this method, in general, permits the detection of ternary complex

formation as well as inhibitors preventing the interaction between the two previously defined fused proteins.

[0007] Another advantage of the two-hybrid plus one system is that it allows or prevents the formation of the transcriptional activator since the third partner can be expressed from a conditional promoter such as the methionine-repressed Met25 promoter which is positively regulated in medium lacking methionine. The presence of the methionine-regulated promoter provides an excellent control to evaluate the activation or inhibition properties of the third partner due to its "on" and "off" switch for the formation of the transcriptional activator. The three-hybrid method is described, for example in Tirode et al., *The Journal of Biological Chemistry*, **272**, No. 37 pp. 22995-22999 (1997). incorporated herein by reference.

[0008] Besides the two and two-hybrid plus one systems, yet another variant is that described in Vidal et al, *Proc. Natl. Sci. 93* pgs. 10315-10320 called the reverse two- and one-hybrid systems where a collection of molecules can be screened that inhibit a specific protein-protein or protein/DNA interactions, respectively.

[0009] A summary of the available methodologies for detecting protein-protein interactions is described in Vidal and Legrain, *Nucleic Acids Research* Vol. 27, No. 4 pgs.919-929 (1999) and Legrain and Selig, FEBS Letters 480 pgs. 32-36 (2000) which references are incorporated herein by reference.

[0010] However, the above conventionally used approaches and especially the commonly used two-hybrid methods have their drawbacks. For example, it is known in the art that, more often than not, false positives and false negatives exist in the screening method. In fact, a doctrine has been developed in this field for interpreting the results and in common practice an additional technique such as co-immunoprecipitation or gradient sedimentation of the putative interactors from the appropriate cell or tissue type are generally performed. The methods used for interpreting the results are described by Brent and Finley, Jr. in *Ann. Rev. Genet., 31 pgs. 663-704 (1997).* Thus, the data interpretation is very questionable using the conventional systems.

[0011] One method to overcome the difficulties encountered with the methods in the prior art is described in WO 99/42612, incorporated herein by reference. This method is similar to the two-hybrid system described in the prior art in that it also uses bait and prey polypeptides. However, the difference with this method is that a step of mating at least one first haploid recombinant yeast cell containing the prey polypeptide to be assayed with a second haploid recombinant yeast cell containing the bait polynucleotide is performed. Of course the person skilled in the art would appreciate that either the first recombinant yeast cell or the second recombinant yeast cell also contains at least one detectable reporter gene that is activated by a polypeptide including a transcriptional activation domain.

[0012] The method described in WO 99/42612 permits the screening of more prey polynucleotides with a given bait polynucleotide in a single step than in the prior art systems due to the cell to cell mating strategy between haploid yeast cells. Furthermore, this method is more thorough and reproducible, as well as sensitive. Thus, the presence of false negatives and/or false positives is extremely minimal as compared to the conventional prior art methods.

[0013] The genus *Shigella* includes four species (major serogroups): *S. dysenteriae* (Grp. A), *S. flexneri* (Grp. B), *S. boydii* (Grp. C) and *S. sonnei* (Grp. D) as classified in Bergey's Manual for Systematic Bacteriology (N. R. Krieg, ed., pp. 423-427 (1984)). The genera *Shigella* and *Escherichia* are phylogenetically closely related. Brenner and others have suggested that the two are more correctly considered sibling species based on DNA/DNA reassociation studies (D. J. Brenner et al., International J. Systematic Bacteriology, 23:1-7 (1973)). These studies showed that *Shigella* species are on average 80-89% related to *E. coli* at the DNA level. Also, the degree of relatedness between *Shigella* species is on average 80-89%.

[0014] The genus *Shigella* is pathogenic in humans; it causes bacillary dysentery at levels of infection of 10 to 100 organisms.

[0015] Shigellosis or bacillary dysentery is a disease that is endemic throughout the world. The disease presents a particularly serious public health problem in tropical regions and developing countries where *Shigella dysenteriae* and *S. flexneri* predominate. In industrialized countries, the principal etiologic agent is *S. sonnei* although sporadic cases of shigellosis are encountered due to *S. flexneri*, *S. boydii* and certain entero-invasive *Escherichia coli*.

[0016] The primary step in the pathogenesis of bacillary dysentery is invasion of the human colonic mucosa by *Shigella* (Labrec, E. H., H. Schneider, T. J. Magnani, and S. B. Formal. 1964. Epithelial cell penetration as an essential step in the pathogenesis of bacillary dysentery. J. Bacteriol. 88:1503). Mucosal invasion encompasses several steps which include penetration of the bacteria into epithelial cells, intracellular multiplication, killing of host cells, and final spreading to adjacent cells and to connective tissue (Formal, S. B., T. L. Hale, and P. J. Sansonetti. 1983. Invasive enteric pathogens. Rev. Infect. Dis. 5:S702, Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of Shigella diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Takeuchi, A., H. Spring, E. H. LaBrec, and S. B. Formal. 1965. Experimental acute colitis in the Rhesus monkey following peroral infection with Shigella flexneri. Am. J. Pathol. 52:503, Takeuchi, A. 1967. Electron microscope studies of experimental Salmonella infection. I. Penetration into cells of the intestinal epithelium by Salmonella typhimurium. Am. J. Pathol. 47:1011). The overall process which is usually

limited to the mucosal surface leads to a strong inflammatory reaction which is responsible for abscesses and ulcerations (Labrec, E. H., H. Schneider, T. J. Magnani, and S. B. Formal. 1964. Epithelial cell penetration as an essential step in the pathogenesis of bacillary dysentery. J. Bacteriol. 88:1503., Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of Shigella diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Takeuchi, A., H. Spring, E. H. LaBrec, and S. B. Formal. 1965. Experimental acute colitis in the Rhesus monkey following peroral infection with Shigella flexneri. Am. J. Pathol. 52:503).

[0017] Even though dysentery is characteristic of shigellosis, it may be preceded by watery diarrhea. Diarrhea appears to be the result of disturbances in colonic reabsorption and increased jejunal secretion whereas dysentery is a purely colonic process (Kinsey, M. D., S. B. Formal, G. J. Dammin, and R. A. Giannella. 1976. Fluid and electrolyte transport in Rhesus monkeys challenged intraceacally with Shigella flexneri 2a. Infect. Immun. 14:368). These include toxic megacolon, leukemoid reactions and hemolytic-uremic syndrome ("HUS"). The latter is a major cause of mortality from shigellosis in developing areas (Gianantonio, C., H. Vitacco, F. Mendilaharzu, A. Rutty, and J. Mendilaharzu. 1964. The hemolytic-uremic syndrome. J. Pediatr. 64:478, Koster, F., J. Levin, L. Walker, K. S. K. Tung, R. H. Gilman, M. M. Rajaman, M. A. Majid, S. Islam, and R. C. Williams Jr. 1977. Hemolyticuremic syndrome after shigellosis. Relation to endotoxin and circulating immune complexes. N. Engl. J. Med. 298:927).

[0018] The role of Shiga-toxin produced at high level by *S. dysenteriae* 1 (Conradi, H., 1903. Ueber loshlishe, durch aseptische Autolyse, erhaltene Giftstoffe von Ruhr--un Typhus bazillen. Dtsch. Med. Wochenschr. 29:26) and Shiga-like toxins ("SLT") produced at low level by *S. flexneri* and *S. sonnei* (Keusch, G. T., and M. Jacewicz. 1977. The pathogenesis of *Shigella* diarrhea. VI. Toxin and antitoxin in *Shigella flexneri* and *Shigella sonnei* infections in humans. J. Infect. Dis. 135:552) in the four major stages of shigellosis (i.e., invasion of individual epithelial cells, tissue invasion, diarrhea and systemic symptoms) is not well understood. For review see O'Brien and Holmes (O'Brien, A. D., and R. K. Holmes. 1987. Shiga and Shiga-like toxins. Microbiol. Rev. 51:206). Plasmids of 180-220 kilobases ("kb") are essential in all *Shigella* species for invasion of individual epithelial cells (Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of *Shigella* diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Sansonetti, P. J., D. J. Kopecko, and S. B. Formal. 1981. *Shigella sonnei* plasmids: evidence that a large plasmid is neceessary for virulence. Infect. Immun. 34:75, Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392). This

includes entry, intracellular multiplication and early killing of host cells (Clerc, P., A. Ryter, J. Mounier, and P. J. Sansonetti. 1987. Plasmid-mediated early killing of eucaryotic cells by Shigella flexneri as studied by infection of J774 macrophages. Infect. Immun. 55:521, Clerc, P., and P. J. Sansonetti. 1987. Entry of *Shigella flexneri* into HeLa cells: Evidence for directed phagocytosis involving actin polymerization and myosin accumulation. Infect. Immun. 55:2681). The role of Shiga-toxin and SLT at this stage is unclear.

[0019] Recent evidence indicates that Shiga-toxin is cytotoxic for primary cultures of human colonic cells (Moyer, M. P., P. S. Dixon, S. W. Rothman, and J. E. Brown. 1987. Cytotoxicity of Shiga toxin for human colonic and ileal epithelial cells. Infect. Immun. 55:1533). Tissue invasion requires additional chromosomally encoded products among which are smooth lipopolysaccharides ("LPS") (Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392), the non-characterized product of the Kcp locus, and aerobactin. A region of the *S. flexneri* chromosome necessary for fluid production in rabbit ileal loops has been localized to the rha-mt1 regions and near the lysine decarboxylase locus (Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392). However, no evidence has been adduced to show that the ability to cause fluid accumulation is due to the SLT of *S. flexneri*. Thus, the role of Shiga-toxin in causing the systemic complications of shigellosis is still hypothetical. However, Shiga-toxin can mediate vascular damage since capillary lesions observed in HUS resemble those observed in cerebral vessels of animals injected with this toxin (Bridgewater, F. A. I., R. S. Morgan, K. E. K. Rowson, and G. P. Wright. 1955. the neurotoxin of Shigella shigae. Morphological and functional lesions produced in the central nervous system of rabbits. Br. J. Exp. Pathol. 36: 447, Cavanagh, J. B., J. G. Howard, and J. L. Whitby. 1956. The neurotoxin of *Shigella shigae*. A comparative study of the effects produced in various laboratory animals. Br. J. Exp. Med. 37:272).

[0020] As described before, the genera of *Shigella* and *Escherichia* are phylogenetically closely related. Furthermore, the pathogenesis of enteroinvasive *E. coli* is very similar to that of *Shigella*. In both, dysentery results from invasion of the colonic epithelial cells followed by intracellular multiplication which leads to bloody, mucous discharge with scanty diarrhea.

[0021] Pathogenic *E. coli* serotypes are collectively referred to as Enterovirulent *E. coli* (EVEC) (J. R. Lupski, et al., J. Infectious Diseases, 157:1120-1123 (1988); M. M. Levine, J. Infectious Diseases, 155:377-389 (1987); M. A. Karmali, Clinical Microbiology Reviews, 2:15-38 (1989)). This group includes at least 5 subclasses of *E. coli*, each having a

characteristic pathogenesis pathway resulting in diarrheal disease. The subclasses include Enterotoxigenic *E. coli* (ETEC), Verotoxin-Producing *E. coli* (VTEC), Enteropathogenic *E. coli* (EPEC), Enteroadherent E. coli (EAEC) and Enteroinvasive E. coli (EIEC). The VTEC include Enterohemorrhagic *E. coli* (EHEC) since these produce verotoxins.

[0022] Thus, detection of *Shigella* and EIEC is important in various medical contexts. For example, the presence of either *Shigella* or EIEC in stool samples is indicative of gastroenteritis, and the ability to screen for their presence is useful in treating and controlling that disease. Detection of *Shigella* or EIEC in any possible transmission vehicle such as food is also important to avoid spread of gastroenteritis.

[0023] That is why there is a great need to construct Protein Interaction Map between *Shigella* polypeptides and human polypeptides in order to understand mechanisms of *Shigella* pathogenesis and to identify drug target to treat *Shigella* associated diseases and *Shigella* detection means.

SUMMARY OF THE PRESENT INVENTION

[0024] Thus, it is an object of the present invention to identify protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0025] It is another object of the present invention to identify protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides for the development of more effective and better targeted therapeutic applications.

[0026] It is yet another object of the present invention to identify complexes of polypeptides or polynucleotides encoding the polypeptides and fragments of the polypeptides of *Shigella* genus and polypeptides and fragments of the polypeptides of mammals, preferably human.

[0027] It is yet another object of the present invention to identify antibodies to these complexes of polypeptides or polynucleotides encoding the polypeptides and fragments of the polypeptides of *Shigella* genus and mammals, preferably human, including polyclonal, as well as monoclonal antibodies that are used for detection.

[0028] It is still another object of the present invention to identify selected interacting domains of the polypeptides, called SID® polypeptides.

[0029] It is still another object of the present invention to identify selected interacting domains of the polynucleotides, called SID® polynucleotides.

[0030] It is another object of the present invention to generate protein-protein interactions maps called PIM®s.

[0031] It is yet another object of the present invention to provide a method for screening drugs for agents which modulate the interaction of proteins and pharmaceutical compositions that are capable of modulating the protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0032] It is another object to administer the nucleic acids of the present invention via gene therapy.

[0033] It is yet another object of the present invention to provide protein chips or protein microarrays.

[0034] It is yet another object of he present invention to provide a report in, for example paper, electronic and/or digital forms, concerning the protein-protein interactions, the modulating compounds and the like as well as a PIM®.

[0035] Thus the present invention, in one aspect thereof, relates to a protein complex between a *Shigella* polypeptide and a mammalian polypeptide. In another embodiment, the Shigella and the mammalian polypeptides are polypeptides set forth on columns 1 and 3 respectively of Table II.

[0036] Furthermore, the present invention provides SID® polynucleotides and SID® polypeptides of Table III, as well as a PIM® between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0037] The present invention also provides antibodies to the protein-protein complexes between *Shigella* polypeptides and mammal, preferably human, polypeptides.

[0038] In another embodiment the present invention provides a method for screening drugs for agents that modulate the protein-protein interactions and pharmaceutical compositions that are capable of modulating protein-protein interactions.

[0039] In another embodiment the present invention provides protein chips or protein microarrays.

[0040] In yet another embodiment the present invention provides a report in, for example, paper, electronic and/or digital forms.

BRIEF DESCRIPTION OF THE DRAWINGS

[0041] Fig. 1 is a schematic representation of the pB1 plasmid.

[0042] Fig. 2 is a schematic representation of the pB5 plasmid.

[0043] Fig. 3 is a schematic representation of the pB6 plasmid.

[0044] Fig. 4 is a schematic representation of the pB13 plasmid.

[0045] Fig. 5 is a schematic representation of the pB14 plasmid.

[0046] Fig. 6 is a schematic representation of the pB20 plasmid.

[0047] Fig. 7 is a schematic representation of the pP1 plasmid.

[0048] Fig. 8 is a schematic representation of the pP2 plasmid.

[0049] Fig. 9 is a schematic representation of the pP3 plasmid.

[0050] Fig. 10 is a schematic representation of the pP6 plasmid.

[0051] Fig. 11 is a schematic representation of the pP7 plasmid.

[0052] Fig. 12 is a schematic representation of vectors expressing the T25 fragment.

[0053] Fig. 13 is a schematic representation of vectors expressing the T18 fragment.

[0054] Fig. 14 is a schematic representation of various vectors of pCmAHL1, pT25 and pT18.

[0055] Fig. 15 is a schematic representation of identification of SID®. In this figure the "Full-length prey protein" is the Open Reading Frame (ORF) or coding sequence (CDS) where the identified prey polypeptides are included. The Selected Interaction Domain (SID®) is determined by the commonly shared polypeptide domain of every selected prey fragment.

[0056] Fig. 16 is a protein map (PIM®).

DETAILED DESCRIPTION OF THE INVENTION

[0057] As used herein the terms "polynucleotides", "nucleic acids" and "oligonucleotides" are used interchangeably and include, but are not limited to RNA, DNA, RNA/DNA sequences of more than one nucleotide in either single chain or duplex form. The polynucleotide sequences of the present invention may be prepared from any known method including, but not limited to, any synthetic method, any recombinant method, any *ex vivo* generation method and the like, as well as combinations thereof.

[0058] The term "polypeptide" means herein a polymer of amino acids having no specific length. Thus, peptides, oligopeptides and proteins are included in the definition of "polypeptide" and these terms are used interchangeably throughout the specification, as well as in the claims. The term "polypeptide" does not exclude post-translational modifications such as polypeptides having covalent attachment of glycosyl groups, aceteyl groups, phosphate groups, lipid groups and the like. Also encompassed by this definition of "polypeptide" are homologs thereof.

[0059] By the term "homologs" is meant structurally similar genes contained within a given species, orthologs are functionally equivalent genes from a given species or strain, as determined for example, in a standard complementation assay. Thus, a polypeptide of interest can be used not only as a model for identifying similiar genes in given strains, but also to identify homologs and orthologs of the polypeptide of interest in other species. The orthologs, for example, can also be identified in a conventional complementation assay. In addition or alternatively, such orthologs can be expected to exist in bacteria (or other kind of cells) in the same branch of the phylogenic tree, as set forth, for example, at ftp://ftp.cme.msu.edu/pub/rdp/SSU-rRNA/SSU/Prok.phylo.

[0060] As used herein the term "prey polynucleotide" means a chimeric polynucleotide encoding a polypeptide comprising (i) a specific domain; and (ii) a polypeptide that is to be tested for interaction with a bait polypeptide. The specific domain is preferably a transcriptional activating domain.

[0061] As used herein, a "bait polynucleotide" is a chimeric polynucleotide encoding a chimeric polypeptide comprising (i) a complementary domain; and (ii) a polypeptide that is to

be tested for interaction with at least one prey polypeptide. The complementary domain is preferably a DNA-binding domain that recognizes a binding site that is further detected and is contained in the host organism.

[0062] As used herein "complementary domain" is meant a functional constitution of the activity when bait and prey are interacting; for example, enzymatic activity.

[0063] As used herein "specific domain" is meant a functional interacting activation domain that may work through different mechanisms by interacting directly or indirectly through intermediary proteins with RNA polymerase II or III-associated proteins in the vicinity of the transcription start site.

[0064] As used herein the term "complementary" means that, for example, each base of a first polynucleotide is paired with the complementary base of a second polynucleotide whose orientation is reversed. The complementary bases are A and T (or A and U) or C and G.

[0065] The term "sequence identity" refers to the identity between two peptides or between two nucleic acids. Identity between sequences can be determined by comparing a position in each of the sequences which may be aligned for the purposes of comparison. When a position in the compared sequences is occupied by the same base or amino acid, then the sequences are identical at that position. A degree of sequence identity between nucleic acid sequences is a function of the number of identical nucleotides at positions shared by these sequences. A degree of identity between amino acid sequences is a function of the number of identical amino acid sequences that are shared between these sequences. Since two polypeptides may each (i) comprise a sequence (i.e., a portion of a complete polynucleotide sequence) that is similar between two polynucleotides, and (ii) may further comprise a sequence that is divergent between two polynucleotides, sequence identity comparisons between two or more polynucleotides over a "comparison window" refers to the conceptual segment of at least 20 contiguous nucleotide positions wherein a polynucleotide sequence may be compared to a reference nucleotide sequence of at least 20 contiguous nucleotides and wherein the portion of the polynucleotide sequence in the comparison window may comprise additions or deletions (i.e., gaps) of 20 percent or less compared to the reference sequence (which does not comprise additions or deletions) for optimal alignment of the two sequences.

[0066] To determine the percent identity of two amino acids sequences or two nucleic acid sequences, the sequences are aligned for optimal comparison. For example, gaps can be introduced in the sequence of a first amino acid sequence or a first nucleic acid sequence for optimal alignment with the second amino acid sequence or second nucleic acid sequence. The amino acid residues or nucleotides at corresponding amino acid positions or nucleotide positions are then compared. When a position in the first sequence is occupied

by the same amino acid residue or nucleotide as the corresponding position in the second sequence, the molecules are identical at that position.

[0067] The percent identity between the two sequences is a function of the number of identical positions shared by the sequences. Hence % identity = number of identical positions / total number of overlapping positions X 100.

[0068] In this comparison the sequences can be the same length or may be different in length. Optimal alignment of sequences for determining a comparison window may be conducted by the local homology algorithm of Smith and Waterman (*J. Theor. Biol.*, 91 (2) pgs. 370-380 (1981), by the homology alignment algorithm of Needleman and Wunsch, *J. Miol. Biol.*, 48(3) pgs. 443-453 (1972), by the search for similarity via the method of Pearson and Lipman, *PNAS, USA*, 85(5) pgs. 2444-2448 (1988) , by computerized implementations of these algorithms (GAP, BESTFIT, FASTA and TFASTA in the Wisconsin Genetics Software Package Release 7.0, Genetic Computer Group, 575, Science Drive, Madison, Wisconsin) or by inspection.

[0069] The best alignment (i.e., resulting in the highest percentage of identity over the comparison window) generated by the various methods is selected.

[0070] The term "sequence identity" means that two polynucleotide sequences are identical (i.e., on a nucleotide by nucleotide basis) over the window of comparison. The term "percentage of sequence identity" is calculated by comparing two optimally aligned sequences over the window of comparison, determining the number of positions at which the identical nucleic acid base (e.g., A, T, C, G, U, or I) occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the window of comparison (i.e., the window size) and multiplying the result by 100 to yield the percentage of sequence identity. The same process can be applied to polypeptide sequences.

[0071] The percentage of sequence identity of a nucleic acid sequence or an amino acid sequence can also be calculated using BLAST software (Version 2.06 of September 1998) with the default or user defined parameter.

[0072] The term "sequence similarity" means that amino acids can be modified while retaining the same function. It is known that amino acids are classified according to the nature of their side groups and some amino acids such as the basic amino acids can be interchanged for one another while their basic function is maintained.

[0073] The term "isolated" as used herein means that a biological material such as a nucleic acid or protein has been removed from its original environment in which it is naturally present. For example, a polynucleotide present in a plant, mammal or animal is present in its natural state and is not considered to be isolated. The same polynucleotide separated

from the adjacent nucleic acid sequences in which it is naturally inserted in the genome of the plant or animal is considered as being "isolated."

[0074] The term "isolated" is not meant to exclude artificial or synthetic mixtures with other compounds, or the presence of impurities which do not interfere with the biological activity and which may be present, for example, due to incomplete purification, addition of stabilizers or mixtures with pharmaceutically acceptable excipients and the like.

[0075] "Isolated polypeptide" or "isolated protein" as used herein means a polypeptide or protein which is substantially free of those compounds that are normally associated with the polypeptide or protein in a naturally state such as other proteins or polypeptides, nucleic acids, carbohydrates, lipids and the like.

[0076] The term "purified" as used herein means at least one order of magnitude of purification is achieved, preferably two or three orders of magnitude, most preferably four or five orders of magnitude of purification of the starting material or of the natural material. Thus, the term "purified" as utilized herein does not mean that the material is 100% purified and thus excludes any other material.

[0077] The term "variants" when referring to, for example, polynucleotides encoding a polypeptide variant of a given reference polypeptide are polynucleotides that differ from the reference polypeptide but generally maintain their functional characteristics of the reference polypeptide. A variant of a polynucleotide may be a naturally occurring allelic variant or it may be a variant that is known naturally not to occur. Such non-naturally occurring variants of the reference polynucleotide can be made by, for example, mutagenesis techniques, including those mutagenesis techniques that are applied to polynucleotides, cells or organisms.

[0078] Generally, differences are limited so that the nucleotide sequences of the reference and variant are closely similar overall and, in many regions identical.

[0079] Variants of polynucleotides according to the present invention include, but are not limited to, nucleotide sequences which are at least 95% identical after alignment to the reference polynucleotide encoding the reference polypeptide. These variants can also have 96%, 97%, 98% and 99.999% sequence identity to the reference polynucleotide.

[0080] Nucleotide changes present in a variant polynucleotide may be silent, which means that these changes do not alter the amino acid sequences encoded by the reference polynucleotide.

[0081] Substitutions, additions and/or deletions can involve one or more nucleic acids. Alterations can produce conservative or non-conservative amino acid substitutions, deletions and/or additions.

[0082] Variants of a prey or a SID® polypeptide encoded by a variant polynucleotide can possess a higher affinity of binding and/or a higher specificity of binding to its protein or

polypeptide counterpart, against which it has been initially selected. In another context, variants can also loose their ability to bind to their protein or polypeptide counterpart.

[0083] By "anabolic pathway" is meant a reaction or series of reactions in a metabolic pathway that synthesize complex molecules from simpler ones, usually requiring the input of energy. An anabolic pathway is the opposite of a catabolic pathway.

[0084] As used herein, a "catabolic pathway" is a series of reactions in a metabolic pathway that break down complex compounds into simpler ones, usually releasing energy in the process. A catabolic pathway is the opposite of an anabolic pathway.

[0085] As used herein, "drug metabolism" is meant the study of how drugs are processed and broken down by the body. Drug metabolism can involve the study of enzymes that break down drugs, the study of how different drugs interact within the body and how diet and other ingested compounds affect the way the body processes drugs.

[0086] As used herein, "metabolism" means the sum of all of the enzyme-catalyzed reactions in living cells that transform organic molecules.

[0087] By "secondary metabolism" is meant pathways producing specialized metabolic products that are not found in every cell.

[0088] As used herein, "SID®" means a Selected Interacting Domain and is identified as follows: for each bait polypeptide screened, selected prey polypeptides are compared. Overlapping fragments in the same ORF or CDS define the selected interacting domain.

[0089] As used herein the term "PIM®" means a protein-protein interaction map. This map is obtained from data acquired from a number of separate screens using different bait polypeptides and is designed to map out all of the interactions between the polypeptides.

[0090] The term "affinity of binding", as used herein, can be defined as the affinity constant Ka when a given SID® polypeptide of the present invention which binds to a polypeptide and is the following mathematical relationship:

[0091] [SID®/polypeptide complex]

[0092] Ka = --

[0093] [free SID®] [free polypeptide]

[0094] wherein [free SID®], [free polypeptide] and [SID®/polypeptide complex] consist of the concentrations at equilibrium respectively of the free SID® polypeptide, of the free polypeptide onto which the SID® polypeptide binds and of the complex formed between SID® polypeptide and the polypeptide onto which said SID® polypeptide specifically binds.

[0095] The affinity of a SID® polypeptide of the present invention or a variant thereof for its polypeptide counterpart can be assessed, for example, on a Biacore™ apparatus marketed by Amersham Pharmacia Biotech Company such as described by Szabo et al *Curr*

Opin Struct Biol **5** pgs. 699-705 (1995) and by Edwards and Leartherbarrow, *Anal. Biochem* 246 pgs. 1-6 (1997).

[0096] As used herein the phrase "at least the same affinity" with respect to the binding affinity between a SID® polypeptide of the present invention to another polypeptide means that the Ka is identical or can be at least two-fold, at least three-fold or at least five fold greater than the Ka value of reference.

[0097] As used herein, the term "modulating compound" means a compound that inhibits or stimulates or can act on another protein which can inhibit or stimulate the protein-protein interaction of a complex of two polypeptides or the protein-protein interaction of two polypeptides.

[0098] More specifically, the present invention comprises complexes of polypeptides or polynucleotides encoding the polypeptides composed of a bait polypeptide, or a bait polynucleotide encoding a bait polypeptide and a prey polypeptide or a prey polynucleotide encoding a prey polypeptide. The prey polypeptide or prey polynucleotide encoding the prey polypeptide is capable of interacting with a bait polypeptide of interest in various hybrid systems.

[0099] As described in the Background of the present invention there are various methods known in the art to identify prey polypeptides that interact with bait polypeptides of interest. These methods, include, but are not limited to, generic two-hybrid systems as described by Fields et al in *Nature*, 340:245-246 (1989) and more specifically in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference; the reverse two-hybrid system described by Vidal et al, *supra*; the two plus one hybrid method described, for example, in Tirode et al, *supra*; the yeast forward and reverse 'n'-hybrid systems as described in Vidal and Legrain, *supra*; the method described in WO 99/42612; those methods described in Legrain et al *FEBS Letters* 480 pgs. 32-36 (2000) and the like.

[0100] The present invention is not limited to the type of method utilized to detect protein-protein interactions and therefore any method known in the art and variants thereof can be used. It is however better to use the method described in WO 99/42612 or WO 00/66722, both references incorporated herein by reference due to the methods' sensitivity, reproducibility and reliability.

[0101] Protein-protein interactions can also be detected using complementation assays such as those described by Pelletier et al. at http://www.abrf.org/JBT/Articles/JBT0012/jbt0012.html, WO 00/07038 and WO98/34120.

[0102] Although the above methods are described for applications in the yeast system, the present invention is not limited to detecting protein-protein interactions using yeast, but also includes similar methods that can be used in detecting protein-protein interactions in, for example, mammalian systems as described, for example in Takacs et al., *Proc. Natl. Acad.*

Sci., USA, **90** (21):10375-79 (1993) and Vasavada et al., *Proc. Natl. Acad. Sci., USA*, 88 (23):10686-90 (1991), as well as a bacterial two-hybrid system as described in Karimova et al (1998), WO99/28746, WO 00/66722 and Legrain et al *FEBS Letters,* **480** pgs. 32-36 (2000).

[0103] The above-described methods are limited to the use of yeast, mammalian cells and *Escherichia coli* cells, the present invention is not limited in this manner. Consequently, mammalian and typically human cells, as well as bacterial, yeast, fungus, insect, nematode and plant cells are encompassed by the present invention and may be transfected by the nucleic acid or recombinant vector as defined herein.

[0104] Examples of suitable cells include, but are not limited to, VERO cells, HELA cells such as ATCC No. CCL2, CHO cell lines such as ATCC No. CCL61, COS cells such as COS-7 cells and ATCC No. CRL 1650 cells, W138, BHK, HepG2, 3T3 such as ATCC No. CRL6361, A549, PC12, K562 cells, 293 cells, Sf9 cells such as ATCC No. CRL1711 and Cv1 cells such as ATCC No. CCL70.

[0105] Other suitable cells that can be used in the present invention include, but are not limited to, prokaryotic host cells strains such as *Escherichia coli,* (e.g., strain DH5-α), *Bacillus subtilis*, *Salmonella typhimurium*, or strains of the genera of *Pseudomonas*, *Streptomyces* and *Staphylococcus.*

[0106] Further suitable cells that can be used in the present invention include yeast cells such as those of *Saccharomyces* such as *Saccharomyces cerevisiae.*

[0107] The bait polynucleotide, as well as the prey polynucleotide can be prepared according to the methods known in the art such as those described above in the publications and patents reciting the known method *per se.*

[0108] The bait polynucleotide of the present invention is obtained from *Shigella flexneri* (see Table I). The prey polynucleotide is obtained form a human placenta cDNA or variants thereof and fragments from the genome or transcriptome of human placenta ranging from about 12 to about 5,000, or about 12 to about 10,000 or from about 12 to about 20,000. The prey polynucleotide is then selected, sequenced and identified.

[0109] A human placenta cDNA prey library is prepared from global human placenta and constructed in the specially designed prey vector pP6 as shown in Figure 10 after ligation of suitable linkers such that every cDNA fragment insert is fused to a nucleotide sequence in the vector that encodes the transcription activation domain of a reporter gene. Any transcription activation domain can be used in the present invention. Examples include, but are not limited to, Gal4,YP16, B42, His and the like. Toxic reporter genes, such as CAT^R, CYH2, CYH1, URA3, bacterial and fungi toxins and the like can be used in reverse two-hybrid systems.

[0110] The polypeptides encoded by the nucleotide inserts of the human placenta cDNA prey library thus prepared are termed "prey polypeptides" in the context of the presently described selection method of the prey polynucleotides.

[0111] The bait polynucleotide can be inserted in bait plasmid pB6 or pB20 as illustrated in Figure 3 or 6 respectively. The bait polynucleotide insert is fused to a polynucleotide encoding the binding domain of, for example, the Gal4 DNA binding domain and the shuttle expression vector is used to transform cells. The bait polynucleotides used in the present invention are describes in Table I. As stated above, any cells can be utilized in transforming the bait and prey polynucleotides of the present invention including mammalian cells, bacterial cells, yeast cells, insect cells and the like.

[0112] In an embodiment, the present invention identifies protein-protein interactions in yeast. In using known methods a prey positive clone is identified containing a vector which comprises a nucleic acid insert encoding a prey polypeptide which binds to a bait polypeptide of interest. The method in which protein-protein interactions are identified comprises the following steps:

[0113] mating at least one first haploid recombinant yeast cell clone from a recombinant yeast cell clone library that has been transformed with a plasmid containing the prey polynucleotide to be assayed with a second haploid recombinant yeast cell clone transformed with a plasmid containing a bait polynucleotide encoding for the bait polypeptide;

[0114] cultivating diploid cell clones obtained in step i) on a selective medium; and

[0115] selecting recombinant cell clones which grow on the selective medium.

[0116] This method may further comprise the step of:

[0117] iv) characterizing the prey polynucleotide contained in each recombinant cell clone which is selected in step iii).

[0118] In yet another embodiment of the present invention, *in lieu* of yeast, *Escherichia coli* is used in a bacterial two-hybrid system, which encompasses a similar principle to that described above for yeast, but does not involve mating for characterizing the prey polynucleotide.

[0119] In yet another embodiment of the present invention, mammalian cells and a method similar to that described above for yeast for characterizing the prey polynucleotide are used.

[0120] By performing the yeast, bacterial or mammalian two-hybrid system it is possible to identify for one particular bait an interacting prey polypeptide. The prey polypeptide that has been selected by testing the library of preys in a screen using the two-hybrid, two plus one hybrid methods and the like, encodes the polypeptide interacting with the protein of interest.

[0121] The present invention is also directed, in a general aspect, to a complex of polypeptides, polynucleotides encoding the polypeptides composed of a bait polypeptide or bait polynucleotide encoding the bait polypeptide and a prey polypeptide or prey polynucleotide encoding the prey polypeptide capable of interacting with the bait polypeptide of interest. These complexes are identified in Table II, as the bait amino acid sequences and the prey amino acid sequences, as well as the bait and prey nucleic acid sequences.

[0122] In another aspect, the present invention relates to a complex of polynucleotides consisting of a first polynucleotide, or a fragment thereof, encoding a prey polypeptide that interacts with a bait polypeptide and a second polynucleotide or a fragment thereof. This fragment has at least 12 consecutive nucleotides, but can have between 12 and 5,000 consecutive nucleotides, or between 12 and 10,000 consecutive nucleotides or between 12 and 20,000 consecutive nucleotides.

[0123] The polypeptides of column 1 and 3 from Table II according to the present invention and the complexes of these two polypeptides also form part of the present invention. More specifically, the polypeptides of SEQ ID NOS. 1 to 7 are part of the present invention and their complexes with the polypeptides of Column 3, Table II.

[0124] In yet another embodiment, the present invention relates to an isolated complex of at least two polypeptides encoded by two polynucleotides wherein said two polypeptides are associated in the complex by affinity binding and are depicted in columns 1 and 3 of Table II.

[0125] In yet another embodiment, the present invention relates to an isolated complex comprising at least a polypeptide as described in column 1 of Table II and a polypeptide as described in column 3 of Table II. The present invention is not limited to these polypeptide complexes alone but also includes the isolated complex of the two polypeptides in which fragments and/or homologous polypeptides exhibiting at least 95% sequence identity, as well as from 96% sequence identity to 99.999% sequence identity.

[0126] Also encompassed in another embodiment of the present invention is an isolated complex in which SID® of the prey polypeptides encoded by SEQ ID Nos. 15 to 215 in Table III form the isolated complex.

[0127] Besides the isolated complexes described above, nucleic acids coding for a Selected Interacting Domain (SID®) polypeptide or a variant thereof or any of the nucleic acids set forth in Table III can be inserted into an expression vector which contains the necessary elements for the transcription and translation of the inserted protein-coding sequence. Such transcription elements include a regulatory region and a promoter. Thus, the nucleic acid which may encode a marker compound of the present invention is operably linked to a promoter in the expression vector. The expression vector may also include a replication origin.

[0128] A wide variety of host/expression vector combinations are employed in expressing the nucleic acids of the present invention. Useful expression vectors that can be used include, for example, segments of chromosomal, non-chromosomal and synthetic DNA sequences. Suitable vectors include, but are not limited to, derivatives of SV40 and pcDNA and known bacterial plasmids such as col EI, pCR1, pBR322, pMal-C2, pET, pGEX as described by Smith et al [need cite 1988], pMB9 and derivatives thereof, plasmids such as RP4, phage DNAs such as the numerous derivatives of phage I such as NM989, as well as other phage DNA such as M13 and filamentous single stranded phage DNA; yeast plasmids such as the 2 micron plasmid or derivatives of the 2m plasmid, as well as centomeric and integrative yeast shuttle vectors; vectors useful in eukaryotic cells such as vectors useful in insect or mammalian cells; vectors derived from combinations of plasmids and phage DNAs, such as plasmids that have been modified to employ phage DNA or the expression control sequences; and the like.

[0129] For example in a baculovirus expression system, both non-fusion transfer vectors, such as, but not limited to pVL941 (*Bam*HI cloning site Summers, pVL1393 (*Bam*HI, *Sma*I, *Xba*I, *Eco*RI, *Not*I, *Xma*III, *Bgl*II and *Pst*I cloning sites; Invitrogen) pVL1392 (*Bgl*II, *Pst*I, *Not*I, *Xma*III, *Eco*RI, *Xba*I, *Sma*I and *Bam*HI cloning site; Summers and Invitrogen) and pBlue*Bac*III (*Bam*HI, *Bgl*II, *Pst*I, *Nco*I and *Hind*III cloning site, with blue/white recombinant screening, Invitrogen), and fusion transfer vectors such as, but not limited to, pAc700(*Bam*HI and *Kpn*I cloning sites, in which the *Bam*HI recognition site begins with the initiation codon; Summers), pAc701 and pAc70-2 (same as pAc700, with different reading frames), pAc360 (*Bam*HI cloning site 36 base pairs downstream of a polyhedrin initiation codon; Invitrogen (195)) and pBlueBacHisA, B, C (three different reading frames with *Bam*HI, *Bgl*II, *Pst*I, *Nco*I and *Hind*III cloning site, an N-terminal peptide for ProBond purification and blue/white recombinant screening of plaques; Invitrogen (220) can be used.

[0130] Mammalian expression vectors contemplated for use in the invention include vectors with inducible promoters, such as the dihydrofolate reductase promoters, any expression vector with a DHFR expression cassette or a DHFR/methotrexate co-amplification vector such as pED (*Pst*I, *Sal*I, SbaI, SmaI and *Eco*RI cloning sites, with the vector expressing both the cloned gene and DHFR; Kaufman, 1991). Alternatively a glutamine synthetase/methionine sulfoximine co-amplification vector, such as pEE14 (*Hind*III, *Xba*I, *Sma*I, *Sba*I, *Eco*RI and *Bcl*I cloning sites in which the vector expresses glutamine synthetase and the cloned gene; Celltech). A vector that directs episomal expression under the control of the Epstein Barr Virus (EBV) or nuclear antigen (EBNA) can be used such as pREP4 (*Bam*HI, *Sfi*I, *Xho*I, *Not*I, *Nhe*I, *Hind*III, *Nhe*I, *Pvu*II and *Kpn*I cloning sites, constitutive RSV-LTR promoter, hygromycin selectable marker; Invitrogen) pCEP4 (*Bam*HI, *Sfi*I, *Xho*I, *Not*I, *Nhe*I, *Hind*III, *Nhe*I, *Pvu*II and *Kpn*I cloning sites, constitutive hCMV

immediate early gene promoter, hygromycin selectable marker; Invitrogen), pMEP4 (*Kpn*I, *Pvu*I, *Nhe*I, *Hind*III, *Not*I, *Xho*I, *Sfi*I, *Bam*HI cloning sites, inducible methallothionein IIa gene promoter, hygromycin selectable marker, Invitrogen), pREP8 (*Bam*HI, *Xho*I, *Not*I, *Hind*III, *Nhe*I and *Kpn*I cloning sites, RSV-LTR promoter, histidinol selectable marker; Invitrogen), pREP9 (*Kpn*I, *Nhe*I, *Hind*III, *Not*I, *Xho*I, *Sfi*I, *Bam*HI cloning sites, RSV-LTR promoter, G418 selectable marker; Invitrogen), and pEBVHis (RSV-LTR promoter, hygromycin selectable marker, N-terminal peptide purifiable via ProBond resin and cleaved by enterokinase; Invitrogen).

[0131] Selectable mammalian expression vectors for use in the invention include, but are not limited to, pRc/CMV (*Hind*III, *Bst*XI, *Not*I, *Sba*I and *Apa*I cloning sites, G418 selection, Invitrogen), pRc/RSV (*Hind*II, *Spe*I, *Bst*XI, *Not*I, *Xba*I cloning sites, G418 selection, Invitrogen) and the like. Vaccinia virus mammalian expression vectors (see, for example Kaufman 1991 that can be used in the present invention include, but are not limited to, pSC11 (*Sma*I cloning site, TK- and β-gal selection), pMJ601 (*Sal*I, *Sma*I, *Afl*I, *Nar*I, *Bsp*MII, *Bam*HI, *Apa*I, *Nhe*I, *Sac*II, *Kpn*I and *Hind*III cloning sites; TK- and β-gal selection), pTKgptF1S (*Eco*RI, *Pst*I, *Sal*II, *Acc*I, *Hind*II, *Sba*I, *Bam*HI and *Hpa* cloning sites, TK or XPRT selection) and the like.

[0132] Yeast expression systems that can also be used in the present include, but are not limited to, the non-fusion pYES2 vector (*Xba*I, *Sph*I, *Sho*I, *Not*I, *Gst*XI, *Eco*RI, *Bst*XI, *Bam*HI, *Sac*I, *Kpn*I and *Hind*III cloning sites, Invitrogen), the fusion pYESHisA, B, C (*Xba*I, *Sph*I, *Sho*I, *Not*I, *Bst*XI, *Eco*RI, *Bam*HI, *Sac*I, *Kpn*I and *Hind*III cloning sites, N-terminal peptide purified with ProBond resin and cleaved with enterokinase; Invitrogen), pRS vectors and the like.

[0133] Consequently, mammalian and typically human cells, as well as bacterial, yeast, fungi, insect, nematode and plant cells an used in the present invention and may be transfected by the nucleic acid or recombinant vector as defined herein.

[0134] Examples of suitable cells include, but are not limited to, VERO cells, HELA cells such as ATCC No. CCL2, CHO cell lines such as ATCC No. CCL61, COS cells such as COS-7 cells and ATCC No. CRL 1650 cells, W138, BHK, HepG2, 3T3 such as ATCC No. CRL6361, A549, PC12, K562 cells, 293 cells, Sf9 cells such as ATCC No. CRL1711 and Cv1 cells such as ATCC No. CCL70.

[0135] Other suitable cells that can be used in the present invention include, but are not limited to, prokaryotic host cells strains such as *Escherichia coli,* (e.g., strain DH5-α), *Bacillus subtilis*, *Salmonella typhimurium*, or strains of the genera of *Pseudomonas*, *Streptomyces* and *Staphylococcus*.

[0136] Further suitable cells that can be used in the present invention include yeast cells such as those of *Saccharomyces* such as *Saccharomyces cerevisiae*.

[0137] Besides the specific isolated complexes, as described above, the present invention relates to and also encompasses SID® polynucleotides. As explained above, for each bait polypeptide, several prey polypeptides may be identified by comparing and selecting the intersection of every isolated fragment that are included in the same polypeptide. Thus the SID® polynucleotides of the present invention are represented by the shared nucleic acid sequences of SEQ ID Nos. 15 to 215 encoding the SID® polypeptides of SEQ ID Nos. 216 to 416 in columns 5 and 7 of Table III, respectively.

[0138] The present invention is not limited to the SID® sequences as described in the above paragraph, but also includes fragments of these sequences having at least 12 consecutive nucleic acids, between 12 and 5,000 consecutive nucleic acids and between 12 and 10,000 consecutive nucleic acids and between 12 and 20,000 consecutive nucleic acids, as well as variants thereof. The fragments or variants of the SID® sequences possess at least the same affinity of binding to its protein or polypeptide counterpart, against which it has been initially selected. Moreover this variant and/or fragments of the SID® sequences alternatively can have between 95% and 99.999% sequence identity to its protein or polypeptide counterpart.

[0139] According to the present invention the variants can be created by known mutagenesis techniques either *in vitro* or *in vivo*. Such a variant can be created such that it has altered binding characteristics with respect to the target protein and more specifically that the variant binds the target sequence with either higher or lower affinity.

[0140] Polynucleotides that are complementary to the above sequences which include the polynucleotides of the SID®'s, their fragments, variants and those that have specific sequence identity are also included in the present invention.

[0141] The polynucleotide encoding the SID® polypeptide, fragment or variant thereof can also be inserted into recombinant vectors which are described in detail above.

[0142] The present invention also relates to a composition comprising the above-mentioned recombinant vectors containing the SID® polypeptides in Table III, fragments or variants thereof, as well as recombinant host cells transformed by the vectors. The recombinant host cells that can be used in the present invention were discussed in greater detail above.

[0143] The compositions comprising the recombinant vectors can contain physiological acceptable carriers such as diluents, adjuvants, excipients and any vehicle in which this composition can be delivered therapeutically and can include, but is are not limited to sterile liquids such as water and oils.

[0144] In yet another embodiment, the present invention relates to a method of selecting modulating compounds, as well as the modulating molecules or compounds themselves which may be used in a pharmaceutical composition. These modulating compounds may

act as a cofactor, as an inhibitor, as antibodies, as tags, as a competitive inhibitor, as an activator or alternatively have agonistic or antagonistic activity on the protein-protein interactions.

[0145] The activity of the modulating compound does not necessarily, for example, have to be 100% activation or inhibition. Indeed, even partial activation or inhibition can be achieved that is of pharmaceutical interest.

[0146] The modulating compound can be selected according to a method which comprises:

[0147] cultivating a recombinant host cell with a modulating compound on a selective medium and a reporter gene the expression of which is toxic for said recombinant host cell wherein said recombinant host cell is transformed with two vectors:

[0148] wherein said first vector comprises a polynucleotide encoding a first hybrid polypeptide having a DNA binding domain;

[0149] wherein said second vector comprises a polynucleotide encoding a second hybrid polypeptide having a transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact;

[0150] selecting said modulating compound which inhibits or permits the growth of said recombinant host cell.

[0151] Thus, the present invention relates to a modulating compound that inhibits the protein-protein interactions between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively. The present invention also relates to a modulating compound that activates the protein-protein interactions between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively.

[0152] In yet another embodiment, the present invention relates to a method of selecting a modulating compound, which modulating compound inhibits the interaction between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively. This method comprises:

(a) cultivating a recombinant host cell with a modulating compound on a selective medium and a reporter gene the expression of which is toxic for said recombinant host cell wherein said recombinant host cell is transformed with two vectors:

(i) wherein said first vector comprises a polynucleotide encoding a first hybrid polypeptide having a first domain of an enzyme;

(ii) wherein said second vector comprises a polynucleotide encoding a second hybrid polypeptide having an enzymatic transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact;

(b) selecting said modulating compound which inhibits or permits the growth of said recombinant host cell.

[0153] In the two methods described above any toxic reporter gene can be utilized including those reporter genes that can be used for negative selection including the URA3 gene, the CYH1 gene, the CYH2 gene and the like.

[0154] In yet another embodiment, the present invention provides a kit for screening a modulating compound. This kit comprises a recombinant host cell which comprises a reporter gene the expression of which is toxic for the recombinant host cell. The host cell is transformed with two vectors. The first vector comprises a polynucleotide encoding a first hybrid polypeptide having a DNA binding domain; and a second vector comprises a polynucleotide encoding a second hybrid polypeptide having a transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact.

[0155] In yet another embodiment a kit is provided for screening a modulating compound by providing a recombinant host cell, as described in the paragraph above, but instead of a DNA binding domain, the first vector comprises a first hybrid polypeptide containing a first domain of a protein. The second vector comprises a second polypeptide containing a second part of a complementary domain of a protein that activates the toxic reporter gene when the first and second hybrid polypeptides interact.

[0156] In the selection methods described above, the activating domain can be p42 Gal 4, YP16 (HSV) and the DNA-binding domain can be derived from Gal4 or Lex A. The protein or enzyme can be adenylate cyclase, guanylate cyclase, DHFR and the like.

[0157] Examples of modulating compounds are set forth in Table III.

[0158] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising the modulating compounds for preventing or treating bacillary dysentery in a human or animal, most preferably in a mammal.

[0159] This pharmaceutical composition comprises a pharmaceutically acceptable amount of the modulating compound. The pharmaceutically acceptable amount can be estimated from cell culture assays. For example, a dose can be formulated in animal models to achieve a circulating concentration range that includes or encompasses a concentration point or range having the desired effect in an *in vitro* system. This information can thus be used to accurately determine the doses in other mammals, including humans and animals.

[0160] The therapeutically effective dose refers to that amount of the compound that results in amelioration of symptoms in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or in experimental animals. For example, the LD50 (the dose lethal to 50% of the population) as

well as the ED50 (the dose therapeutically effective in 50% of the population) can be determined using methods known in the art. The dose ratio between toxic and therapeutic effects is the therapeutic index which can be expressed as the ratio between LD 50 and ED50 compounds that exhibit high therapeutic indexes.

[0161] The data obtained from the cell culture and animal studies can be used in formulating a range of dosage of such compounds which lies preferably within a range of circulating concentrations that include the ED50 with little or no toxicity.

[0162] The pharmaceutical composition can be administered via any route such as locally, orally, systemically, intravenously, intramuscularly, mucosally, using a patch and can be encapsulated in liposomes, microparticles, microcapsules, and the like. The pharmaceutical composition can be embedded in liposomes or even encapsulated.

[0163] Any pharmaceutically acceptable carrier or adjuvant can be used in the pharmaceutical composition. The modulating compound will be preferably in a soluble form combined with a pharmaceutically acceptable carrier. The techniques for formulating and administering these compounds can be found in "*Remington's Pharmaceutical Sciences*" Mack Publication Co., Easton, PA, latest edition.

[0164] The mode of administration optimum dosages and galenic forms can be determined by the criteria known in the art taken into account the seriousness of the general condition of the mammal, the tolerance of the treatment and the side effects.

[0165] The present invention also relates to a method of treating or preventing bacillary dysentery in a human or mammal in need of such treatment. This method comprises administering to a mammal in need of such treatment a pharmaceutically effective amount of a modulating compound which binds to a targeted Shigella protein. In a preferred embodiment, the modulating compound is a polynucleotide which may be placed under the control of a regulatory sequence which is functional in the mammal or human.

[0166] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising a SID® polypeptide, a fragment or variant thereof. The SID® polypeptide, fragment or variant thereof can be used in a pharmaceutical composition provided that it is endowed with highly specific binding properties to a bait polypeptide of interest.

[0167] The original properties of the SID® polypeptide or variants thereof interfere with the naturally occurring interaction between a first protein and a second protein within the cells of the organism. Thus, the SID® polypeptide binds specifically to either the first polypeptide or the second polypeptide.

[0168] Therefore, the SID® polypeptides of the present invention or variants thereof interfere with protein-protein interactions between *Shigella* or *Escherichia* polypeptides or between a mammal polypeptide.

[0169] Thus, the present invention relates to a pharmaceutical composition comprising a pharmaceutically acceptable amount of a SID® polypeptide or variant thereof, provided that the variant has the above-mentioned two characteristics; i.e., that it is endowed with highly specific binding properties to a bait polypeptide of interest and is devoid of biological activity of the naturally occurring protein.

[0170] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising a pharmaceutically effective amount of a polynucleotide encoding a SID® polypeptide or a variant thereof wherein the polynucleotide is placed under the control of an appropriate regulatory sequence. Appropriate regulatory sequences that are used are polynucleotide sequences derived from promoter elements and the like.

[0171] Polynucleotides that can be used in the pharmaceutical composition of the present invention include the nucleotide sequences of SID®s of SEQ ID Nos. 15 to 215.

[0172] Besides the SID® polypeptides and polynucleotides, the pharmaceutical composition of the present invention can also include a recombinant expression vector comprising the polynucleotide encoding the SID® polypeptide, fragment or variant thereof.

[0173] The above described pharmaceutical compositions can be administered by any route such as orally, systemically, intravenously, intramuscularly, intradermally, mucosally, encapsulated, using a patch and the like. Any pharmaceutically acceptable carrier or adjuvant can be used in this pharmaceutical composition.

[0174] The SID® polypeptides as active ingredients will be preferably in a soluble form combined with a pharmaceutically acceptable carrier. The techniques for formulating and administering these compounds can be found in "*Remington's Pharmaceutical Sciences*" *supra*.

[0175] The amount of pharmaceutically acceptable SID® polypeptides can be determined as described above for the modulating compounds using cell culture and animal models.

[0176] Such compounds can be used in a pharmaceutical composition to treat or prevent bacillary dysentery.

[0177] Thus, the present invention also relates to a method of preventing or treating bacillary dysentery in a mammal said method comprising the steps of administering to a

mammal in need of such treatment a pharmaceutically effective amount of a recombinant expression vector comprising a polynucleotide encoding a SID® polypeptide which binds to a either to a *Shigella flexneri* protein or to a human placenta protein involved in a protein-protein interaction between a *Shigella flexneri* protein and an human placenta protein.More specifically, the present invention relates to a method of preventing or treating bacillary dysentery in a mammal said method comprising the steps of administering to a mammal in need of such treatment a pharmaceutically effective amount of:

(1) a SID® polypeptide of SEQ ID Nos. 216 to 416 or a variant thereof which binds to a targeted *Shigella flexneri* protein or human placenta protein; or

(2) a SID® polynucleotide encoding a SID® polypeptide of SEQ ID Nos. 15 to 215 or a variant or a fragment thereof wherein said polynucleotide is placed under the control of a regulatory sequence which is functional in said mammal; or

(3) a recombinant expression vector comprising a polynucleotide encoding a SID® polypeptide which binds either to a *Shigella flexneri* protein or to a human placenta protein involved in a protein-protein interaction between a *Shigella flexneri* protein and an human placenta protein.

[0178] In another embodiment the present invention nucleic acids comprising a sequence of SEQ ID Nos. 15 to 215 which encodes the protein of sequence SEQ ID Nos. 216 to 416 and/or functional derivatives thereof are administered to modulate complex (from Table II) function by way of gene therapy. Any of the methodologies relating to gene therapy available within the art may be used in the practice of the present invention such as those described by Goldspiel et al *Clin. Pharm.* **12** pgs. 488-505 (1993).

[0179] Delivery of the therapeutic nucleic acid into a patient may be direct *in vivo* gene therapy (i.e., the patient is directly exposed to the nucleic acid or nucleic acid-containing vector) or indirect *ex vivo* gene therapy (i.e., cells are first transformed with the nucleic acid in vitro and then transplanted into the patient).

[0180] For example for *in vivo* gene therapy, an expression vector containing the nucleic acid is administered in such a manner that it becomes intracellular; i.e., by infection using a defective or attenuated retroviral or other viral vectors as described, for example in U.S. Patent 4,980,286 or by Robbins et al, Pharmacol. *Ther.* , **80** No. 1 pgs. 35-47 (1998).

[0181] The various retroviral vectors that are known in the art are such as those described in Miller et al, *Meth. Enzymol.* **217** pgs. 581-599 (1993) which have been modified to delete those retroviral sequences which are not required for packaging of the viral genome and subsequent integration into host cell DNA. Also adenoviral vectors can be used which are advantageous due to their ability to infect non-dividing cells and such high-capacity adenoviral vectors are described in Kochanek, *Human Gene Therapy*, **10**, pgs. 2451-2459 (1999). Chimeric viral vectors that can be used are those described by Reynolds

et al, *Molecular Medecine Today*, pgs. 25 –31 (1999). Hybrid vectors can also be used and are described by Jacoby et al, *Gene Therapy*, **4**, pgs. 1282-1283 (1997).

[0182] Direct injection of naked DNA or through the use of microparticle bombardment (e.g., Gene Gun®; Biolistic, Dupont). or by coating it with lipids can also be used in gene therapy. Cell-surface receptors/transfecting agents or through encapsulation in liposomes, microparticles or microcapsules or by administering the nucleic acid in linkage to a peptide which is known to enter the nucleus or by administering it in linkage to a ligand predisposed to receptor-mediated endocytosis (See, Wu & Wu, J. Biol. Chem., 262 pgs. 4429-4432 (1987)) can be used to target cell types which specifically express the receptors of interest.

[0183] In another embodiment a nucleic acid ligand compound may be produced in which the ligand comprises a fusogenic viral peptide designed so as to disrupt endosomes, thus allowing the nucleic acid to avoid subsequent lysosomal degradation. The nucleic acid may be targeted *in vivo* for cell specific endocytosis and expression by targeting a specific receptor such as that described in WO92/06180, WO93/14188 and WO 93/20221. Alternatively the nucleic acid may be introduced intracellularly and incorporated within the host cell genome for expression by homologous recombination. See, Zijlstra et al, *Nature,* **342,** pgs. 435-428 (1989).

[0184] In *ex vivo* gene a gene is transferred into cells *in vitro* using tissue culture and the cells are delivered to the patient by various methods such as injecting subcutaneously, application of the cells into a skin graft and the intravenous injection of recombinant blood cells such as hematopoietic stem or progenitor cells.

[0185] Cells into which a nucleic acid can be introduced for the purposes of gene therapy include, for example, epithelial cells, endothelial cells, keratinocytes, fibroblasts, muscle cells, hepatocytes and blood cells. The blood cells that can be used include, for example, T-lymphocytes, B-lymphocytes, monocytes, macrophages, neutrophils, eosinophils, megakaryotcytes, granulocytes, hematopoietic cells or progenitor cells and the like.

[0186] In yet another embodiment the present invention relates to protein chips or protein microarrays. It is well known in the art that microarrays can contain more than 10,000 spots of a protein that can be robotically deposited on a surface of a glass slide or nylon filter. The proteins attach covalently to the slide surface, yet retain their ability to interact with other proteins or small molecules in solution. In some instances the protein samples can be made to adhere to glass slides by coating the slides with an aldehyde-containing reagent that attaches to primary amines. A process for creating microarrays is described, for example by MacBeath and Schreiber in *Science,* Volume 289, Number 5485, pgs, 1760-1763 (2000) or Service, *Science*, Vol, 289, Number 5485 pg. 1673 (2000). An

apparatus for controlling, dispensing and measuring small quantities of fluid is described, for example, in U.S. Patent No. 6,112,605.

[0187] The present invention also provides a record of protein-protein interactions, PIM®'s, SID®'s and any data encompassed in the following Tables. It will be appreciated that this record can be provided in paper or electronic or digital form.

[0188] In order to fully illustrate the present invention and advantages thereof, the following specific examples are given, it being understood that the same are intended only as illustrative and in no way limitative.

EXAMPLES

EXAMPLE 1: Preparation of a collection of random-primed cDNA fragments

1.A. Collection preparation and transformation in Escherichia coli

1.A.1. Random-primed cDNA fragment preparation

[0189] For the human placenta mRNA sample, random-primed cDNA was prepared from 5 µg of polyA+ mRNA using a TimeSaver cDNA Synthesis Kit (Amersham Pharmacia Biotech) and with 5 µg of random N9-mers according to the manufacturer's instructions. Following phenolic extraction, the cDNA was precipitated and resuspended in water. The resuspended cDNA was phosphorylated by incubating in the presence of T4 DNA Kinase (Biolabs) and ATP for 30 minutes at 37°C. The resulting phosphorylated cDNA was then purified over a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.2. Ligation of linkers to blunt-ended cDNA

Oligonucleotide HGX931 (5' end phosphorylated) 1 µg/µl and HGX932 1µg/µl.

Sequence of the oligo HGX931: 5'-GGGCCACGAA-3' (SEQ ID NO. 417)

Sequence of the oligo HGX932 : 5'-TTCGTGGCCCCTG-3' (SEQ ID NO. 418)

[0190] Linkers were preincubated (5 minutes at 95°C, 10 minutes at 68°C, 15 minutes at 42°C) then cooled down at room temperature and ligated with cDNA fragments at 16°C overnight.

[0191] Linkers were removed on a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.3. Vector preparation

[0192] Plasmid pP6 (see Figure 10) was prepared by replacing the *SpeI/XhoI* fragment of pGAD3S2X with the double-stranded oligonucleotide:

5'CTAGCCATGGCCGCAGGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAAGGGC
CACTGGGGCCCCC
GGTACCGGCGTCCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTTCCCGGTGAC
CCCGGGGGAGCT 3' (SEQ ID NO. 419)

[0193] The pP6 vector was successively digested with *Sfi*1 and *Bam*HI restriction enzymes (Biolabs) for 1 hour at 37°C, extracted, precipitated and resuspended in water. Digested plasmid vector backbones were purified on a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.4. Ligation between vector and insert of cDNA

[0194] The prepared vector was ligated overnight at 15°C with the blunt-ended cDNA described in section 2 using T4 DNA ligase (Biolabs). The DNA was then precipitated and resuspended in water.

1.A.5. Library transformation in *Escherichia coli*

[0195] The DNA from section 1.A.4 was transformed into Electromax DH10B electrocompetent cells (Gibco BRL) with a Cell Porator apparatus (Gibco BRL). 1 ml SOC medium was added and the transformed cells were incubated at 37°C for 1 hour. 9 mls of SOC medium per tube was added and the cells were plated on LB+ampicillin medium. The colonies were scraped with liquid LB medium, aliquoted and frozen at -80°C.

[0196] The obtained collection of recombinant cell clones is named HGXBPLARP1.

1.B. Collection transformation in *Saccharomyces cerevisiae*

[0197] The Saccharomyces cerevisiae strain (Y187 (MATα Gal4Δ Gal80Δ ade2-101, his3, leu2-3, -112, trp1-901, ura3-52 URA3::UASGAL1-LacZ Met)) was transformed with the cDNA library.

[0198] The plasmid DNA contained in E. coli were extracted (Qiagen) from aliquoted E. coli frozen cells (1.A.5.). Saccharomyces cerevisiae yeast Y187 in YPGlu were grown.

[0199] Yeast transformation was performed according to standard protocol (Giest et al. Yeast, 11, 355-360, 1995) using yeast carrier DNA (Clontech). This experiment leads to 10^4 to 5×10^4 cells/μg DNA. 2×10^4 cells were spread on DO-Leu medium per plate. The cells were aliquoted into vials containing 1 ml of cells and frozen at -80°C.

[0200] The obtained collection of recombinant cell clones is named HGXYPLARP1 (placenta).

1.C. Construction of bait plasmids

[0201] For fusions of the bait protein (listed in Table II) to the DNA-binding domain of the GAL4 protein of *S. cerevisiae*, bait fragments were cloned into plasmid pB6. For fusions of the bait protein to the DNA-binding domain of the LexA protein of *E. coli*, bait fragments were cloned into plasmid pB20.

[0202] Plasmid pB6 (see Figure 3) was prepared by replacing the *Nco*1/*Sal*1 polylinker fragment of pASΔΔ with the double-stranded DNA fragment:

5'
CATGGCCGGACGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAAGGGCCACTGG
GGCCCCC 3' (SEQ ID NO. 420)

3'

CGGCCTGCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTTCCCGGTGACCCCGG GGGAGCT 5' (SEQ ID NO. 421)

[0203] Plasmid pB20 (see Figure 6) was prepared by replacing the *Eco*RI*PstI* polylinker fragment of pLex10 with the double-stranded DNA fragment:

5'

AATTCGGGGCCGGACGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAGGGCCAC TGGGGCCCCTCGACCTGCA 3' (SEQ ID NO. 422)

3'

GCCCCGGCCTGCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTCCCGGTGACCC CGGGGAGCTGG 5' (SEQ ID NO. 423)

[0204] The amplification of the bait ORF was obtained by PCR using the Pfu proof-reading *Taq* polymerase (Stratagene), 10 pmol of each specific amplification primer and 200 ng of plasmid DNA as template.

[0205] The PCR program was set up as follows :

94°	45"	
94°	45"	x30 cycles
48°	45"	
72°	6'	
72°	10'	
15°	∞	

[0206] The amplification was checked by agarose gel electrophoresis.

[0207] The PCR fragments were purified with Qiaquick column (Qiagen) according to the manufacturer's protocol.

[0208] Purified PCR fragments were digested with adequate restriction enzymes. The PCR fragments were purified with Qiaquick column (Qiagen) according to the manufacturer's protocol.

[0209] The digested PCR fragments were ligated into an adequately digested and dephosphorylated bait vector (pB6 or pB20) according to standard protocol (Sambrook *et al.*) and were transformed into competent bacterial cells. The cells were grown, the DNA extracted and the plasmid was sequenced.

Example 2 : Screening the collection with the two-hybrid in yeast system

2.A. The mating protocol

[0210] The mating two-hybrid in yeast system (as described by Legrain et al., *Nature Genetics,* vol. 16, 277-282 (1997), *Toward a functional analysis of the yeast genome through*

exhaustive two-hybrid screens) was used for its advantages but one could also screen the cDNA collection in classical two-hybrid system as described in Fields *et al.* or in a yeast reverse two-hybrid system.

[0211] The mating procedure allows a direct selection on selective plates because the two fusion proteins are already produced in the parental cells. No replica plating is required.

[0212] This protocol was written for the use of the library transformed into the Y187 strain.

[0213] For bait proteins fused to the DNA-binding domain of GAL4, bait-encoding plasmids were first transformed into *S. cerevisiae* (CG1945 strain (MATa Gal4-542 Gal180-538 ade2-101 his3Δ200, leu2-3,112, trp1-901, ura3-52, lys2-801, URA3::GAL4 17mers (X3)-CyC1TATA-LacZ, LYS2::GAL1UAS-GAL1TATA-HIS3 CYH^R)) according to step 1.B. and spread on DO-Trp medium.

[0214] For bait proteins fused to the DNA-binding domain of LexA, bait-encoding plasmids were first transformed into *S. cerevisiae* (L40Δgal4 strain (MATa ade2, trp1-901, leu2 3,112, lys2-801, his3Δ200, LYS2::$(lexAop)_4$-HIS3, ura3-52::URA3 $(lexAop)_8$-LacZ, GAL4::Kan^R)) according to step 1.B. and spread on DO-Trp medium.

Day 1, morning : preculture

[0215] The cells carrying the bait plasmid obtained at step 1.C. were precultured in 20 ml DO-Trp medium and grown at 30°C with vigorous agitation.

Day 1, late afternoon : culture

[0216] The OD_{600nm} of the DO-Trp pre-culture of cells carrying the bait plasmid pre-culture was measured. The OD_{600nm} must lie between 0.1 and 0.5 in order to correspond to a linear measurement.50 ml DO-Trp at OD_{600nm} 0.006/ml was inoculated and grown overnight at 30°C with vigorous agitation.

Day 2 : mating

medium and plates

1 YPGlu 15cm plate

50 ml tube with 13 ml DO-Leu-Trp-His

100 ml flask with 5 ml of YPGlu

8 DO-Leu-Trp-His plates

2 DO-Leu plates

2 DO-Trp plates

2 DO-Leu-Trp plates

[0217] The OD_{600nm} of the DO-Trp culture was measured. It should be around 1.

[0218] For the mating, twice as many bait cells as library cells were used. To get a good mating efficiency, one must collect the cells at 10^8 cells per cm^2.

[0219] The amount of bait culture (in ml) that makes up 50 OD_{600nm} units for the mating with the prey library was estimated.

[0220] A vial containing the HGXYCDNA1 library was thawed slowly on ice. 1.0ml of the vial was added to 5 ml YPGlu. Those cells were recovered at 30°C, under gentle agitation for 10 minutes.

Mating

[0221] The 50 OD_{600nm} units of bait culture was placed into a 50 ml falcon tube.

[0222] The HGXYCDNA1 library culture was added to the bait culture, then centrifuged, the supernatant discarded and resuspended in 1.6ml YPGlu medium.

[0223] The cells were distributed onto two 15cm YPGlu plates with glass beads. The cells were spread by shaking the plates. The plate cells-up at 30°C for 4h30min were incubated.

Collection of mated cells

[0224] The plates were washed and rinsed with 6ml and 7ml respectively of DO-Leu-Trp-His. Two parallel serial ten-fold dilutions were performed in 500µl DO-Leu-Trp-His up to 1/10,000. 50µl of each 1/10000 dilution was spread onto DO-Leu and DO-trp plates and 50µl of each 1/1000 dilution onto DO-Leu-Trp plates. 22.4ml of collected cells were spread in 400µl aliquots on DO-Leu-Trp-His+Tet plates.

Day 4

[0225] Clones that were able to grow on DO-Leu-Trp-His+Tetracyclin were then selected. This medium allows one to isolate diploid clones presenting an interaction.

[0226] The His+ colonies were counted on control plates.

[0227] The number of His+ cell clones will define which protocol is to be processed :

[0228] Upon 60.10^6 Trp+Leu+ colonies :

- if the number His+ cell clones <285 : then use the process luminometry protocol on all colonies
- if the number of His+ cell clones > 285 and <5000: then process via overlay and then luminometry protocols on blue colonies (2.B and 2.C).
- if number of His+ cell clones >5000 : repeat screen using DO-Leu-Trp-His+Tetracyclin plates containing 3-aminotriazol.

2.B. The X-Gal overlay assay

[0229] The X-Gal overlay assay was performed directly on the selective medium plates after scoring the number of His^+ colonies.

Materials

[0230] A waterbath was set up. The water temperature should be 50°C.

0.5 M Na_2HPO_4 pH 7.5.

1.2% Bacto-agar.

2% X-Gal in DMF.

Overlay mixture : 0.25 M Na_2HPO_4 pH7.5, 0.5% agar, 0.1% SDS, 7% DMF (LABOSI), 0.04% X-Gal (ICN). For each plate, 10 ml overlay mixture are needed.

DO-Leu-Trp-His plates.

Sterile toothpicks.

Experiment

[0231] The temperature of the overlay mix should be between 45°C and 50°C. The overlay-mix was poured over the plates in portions of 10 ml. When the top layer was settled, they were collected. The plates were incubated overlay-up at 30°C and the time was noted. Blue colonies were checked for regularly. If no blue colony appeared, overnight incubation was performed. Using a pen the number of positives was marked. The positives colonies were streaked on fresh DO-Leu-Trp-His plates with a sterile toothpick.

2.C. The luminometry assay

[0232] His+ colonies were grown overnight at 30°C in microtiter plates containing DO-Leu-Trp-His+Tetracyclin medium with shaking. The day after, the overnight culture was diluted 15 times into a new microtiter plate containing the same medium and was incubated for 5 hours at 30°C with shaking. The samples were diluted 5 times and read OD_{600nm}. The samples were diluted again to obtain between 10,000 and 75,000 yeast cells/well in 100 μl final volume.

[0233] Per well, 76 μl of One Step Yeast Lysis Buffer (Tropix) was added, 20 μl SapphireII Enhancer (Tropix), 4 μl Galacton Star (Tropix) and incubated 40 minutes at 30°C. The β-Gal read-out (L) was measured using a Luminometer (Trilux, Wallach). The value of (OD_{600nm} x L) was calculated and interacting preys having the highest values were selected.

[0234] At this step of the protocol, diploid cell clones presenting interaction were isolated. The next step was now to identify polypeptides involved in the selected interactions.

Example 3 : Identification of positive clones

3.A. PCR on yeast colonies

Introduction

[0235] PCR amplification of fragments of plasmid DNA directly on yeast colonies is a quick and efficient procedure to identify sequences cloned into this plasmid. It is directly derived from

[0236] a published protocol (Wang H. et al., *Analytical Biochemistry,* **237**, 145-146, (1996)). However, it is not a standardized protocol and it varies from strain to strain and it is dependent of experimental conditions (number of cells, *Taq* polymerase source, etc). This protocol should be optimized to specific local conditions.

Materials

[0237] For 1 well, PCR mix composition was :

32.5 μl water,

5 μl 10X PCR buffer (Pharmacia),

1 μl dNTP 10 mM,

0.5 μl *Taq* polymerase (5u/μl) (Pharmacia),

0.5 μl oligonucleotide ABS1 10 pmole/μl: 5'-GCGTTTGGAATCACTACAGG-3',(SEQ ID NO. 424)

0.5 μl oligonucleotide ABS2 10 pmole/μl: 5'-CACGATGCACGTTGAAGTG-3'.(SEQ ID NO. 425)

1 N NaOH.

Experiment

[0238] The positive colonies were grown overnight at 30°C on a 96 well cell culture cluster (Costar), containing 150 μl DO-Leu-Trp-His+Tetracyclin with shaking. The culture was resuspended and 100 μl was transferred immediately on a Thermowell 96 (Costar) and centrifuged for 5 minutes at 4,000 rpm at room temperature. The supernatant was removed. 5 μl NaOH was added to each well and shaken for 1 minute.

[0239] The Thermowell was placed in the thermocycler (GeneAmp 9700, Perkin Elmer) for 5 minutes at 99.9°C and then 10 minutes at 4°C. In each well, the PCR mix was added and shaken well.

[0240] The PCR program was set up as followed :

94°C	3 minutes	
94°C	30 seconds	
53°C	1 minute 30 seconds	x 35 cycles
72°C	3 minutes	
72°C	5 minutes	
15°C	∞	

[0241] The quality, the quantity and the length of the PCR fragment was checked on an agarose gel. The length of the cloned fragment was the estimated length of the PCR fragment minus 300 base pairs that corresponded to the amplified flanking plasmid sequences.

[0242] 3.B. Plasmids rescue from yeast by *electroporation*

Introduction

[0243] The previous protocol of PCR on yeast cell may not be successful, in such a case, plasmids from yeast by electroporation can be rescued. This experiment allows the recovery of prey plasmids from yeast cells by transformation of *E. coli* with a yeast cellular extract. The prey plasmid can then be amplified and the cloned fragment can be sequenced.

Materials

[0244] Plasmid rescue

Glass beads 425-600 μm (Sigma)Phenol/chloroform (1/1) premixed with isoamyl alcohol (Amresco)

Extraction buffer : 2% Triton X100, 1% SDS, 100 mM NaCl, 10 mM TrisHCl pH 8.0, 1 mM EDTA pH 8.0.

Mix ethanol/NH_4Ac : 6 volumes ethanol with 7.5 M NH_4 Acetate, 70% Ethanol and yeast cells in patches on plates.

Electroporation

SOC medium

M9 medium

Selective plates : M9-Leu+Ampicillin

2 mm electroporation cuvettes (Eurogentech)

Experiment

Plasmid rescue

[0245] The cell patch on DO-Leu-Trp-His was prepared with the cell culture of section 2.C. The cell of each patch was scraped into an Eppendorf tube, 300 μl of glass beads was added in each tube, then, 200 μl extraction buffer and 200 μl phenol:chloroform:isoamyl alcohol (25:24:1) was added.

[0246] The tubes were centrifuged for 10 minutes at 15,000 rpm.

[0247] 180 μl supernatant was transferred to a sterile Eppendorf tube and 500 μl each of ethanol/NH_4Ac was added and the tubes were vortexed. The tubes were centrifuged for 15 minutes at 15,000 rpm at 4°C. The pellet was washed with 200 μl 70% ethanol and the ethanol was removed and the pellet was dried. The pellet was resuspended in 10 μl water. Extracts were stored at -20°C.

Electroporation

Materials :

[0248] Electrocompetent MC1066 cells prepared according to standard protocols (Sambrook et al. *supra*).

1 μl of yeast plasmid DNA-extract was added to a pre-chilled Eppendorf tube, and kept on ice.

1 μl plasmid yeast DNA-extract sample was mixed and 20 μl electrocompetent cells was added and transferred in a cold electroporation cuvette.Set the Biorad electroporator on 200 ohms resistance, 25 μF capacity; 2.5 kV. Place the cuvette in the cuvette holder and electroporate.

1 ml of SOC was added into the cuvette and the cell-mix was transferred into a sterile Eppendorf tube. The cells were recovered for 30 minutes at 37°C, then spun down for

1 minute at 4,000 x g and the supernatant was poured off. About 100 μl medium was kept and used to resuspend the cells and spread them on selective plates (e.g., M9-Leu plates). The plates were then incubated for 36 hours at 37°C.

[0249] One colony was grown and the plasmids were extracted. Check for the presence and size of the insert through enzymatic digestion and agarose gel electrophoresis. The insert was then sequenced.

Example 4 : Protein-protein interaction

[0250] For each bait, the previous protocol leads to the identification of prey polynucleotide sequences. Using a suitable software program (e.g., Blastwun, available on the Internet site of the University of Washington : http://bioweb.pasteur.fr/seqanal/interfaces/blastwu.html) the identity of the mRNA transcript that is encoded by the prey fragment may be determined and whether the fusion protein encoded is in the same open reading frame of translation as the predicted protein or not.

[0251] Alternatively, prey nucleotide sequences can be compared with one another and those which share identity over a significant region (60nt) can be grouped together to form a contiguous sequence (Contig) whose identity can be ascertained in the same manner as for individual prey fragments described above.

Example 5 : Identification of SID®

[0252] By comparing and selecting the intersection of all isolated fragments that are included in the same polypeptide, one can define the Selected Interacting Domain (SID®) as illustrated in Figure 15. The SID® is illustrated in Table III .

Example 6 : Identification of PIM®

[0253] The PIM® is then constructed using methods known in the art as exemplified in Figure 16.

Example 7 : Making of polyclonal and monoclonal antibodies

[0254] The protein-protein complex of columns 1 and 3 of Table II was injected into mice and polyclonal and monoclonal antibodies were made following the procedure set forth in Sambrook et al. (*supra*).

[0255] More specifically, mice are immunized with an immunogen comprising Table II complexes conjugated to keyhole limpet hemocyanin using glutaraldehyde or EDC as is well known in the art. The complexes can also be stabilized by crosslinking as described in WO 00/37483. The immunogen is then mixed with an adjuvant. Each mouse receives four injections of 10 ug to 100 ug of immunogen, and after the fourth injection, blood samples are taken from the mice to determine if the serum contains antibodies to the immunogen. Serum titer is determined by ELISA or RIA. Mice with sera indicating the presence of antibody to the immunogen are selected for hybridoma production.

[0256] Spleens are removed from immune mice and single-cell suspension is prepared (Harlow et al 1988). Cell fusions are performed essentially as described by Kohler et al (1976). Briefly, P365.3 myeloma cells (ATTC Rockville, Md) or NS-1 myeloma cells are fused with spleen cells using polyethylene glycol as described by Harlow et al (1989). Cells are plated at a density of 2 x 10^5 cells/well in 96-well tissue culture plates. Individual wells are examined for growth and the supernatants of wells with growth are tested for the presence of the complex-specific antibodies by ELISA or RIA using one of the proteins set forth in Table II as a target protein. Cells in positive wells are expanded and subcloned to establish and confirm monoclonality.

[0257] Clones with the desired specificities are expanded and grown as ascites in mice or in a hollow fiber system to produce sufficient quantities of antibodies for characterization and assay development. Antibodies are tested for binding to one of the proteins in Table II, to determine which are specific for the Table II complexes as opposed to those that bind to the individual proteins. More specifically, antibodies are tested for binding to bait polypeptide of column 1 of Table II alone or to prey polypeptide of column 3 of Table II alone, to determine which are specific for the protein-protein complex of columns 1 and 3 of Table II as opposed to those that bind to the individual proteins.

[0258] Monoclonal antibodies against each of the complexes set forth in columns 1 and 3 of Table II are prepared in a similar manner by mixing specified proteins together, immunizing an animal, fusing spleen cells with myeloma cells and isolating clones which produce antibodies specific for he protein complex, but not for individual proteins.

Example 8: Modulating compounds/PIM screening

[0259] Each specific protein-protein complex of columns 1 and 3 of Table II may be used to screen for modulating compounds.

[0260] One appropriate construction for this modulating compound screening may be:

- bait polynucleotide inserted in pB6 or pB20;- prey polynucleotide inserted in pP6;
- transformation of these two vectors in a permeable yeast cell;
- growth of the transformed yeast cell on medium containing compound to be tested;
- and observation of the growth of the yeast cells.

[0261] The following results obtained from these Examples, as well as the teachings in the specification are set forth in the Tables below.

[0262] While the invention has been described in terms of the various preferred embodiments, the skilled artisan will appreciate that various modifications, substitutions, omissions and changes may be made without departing from the scope thereof. Accordingly, it is intended that the present invention be limited by the scope of the following claims, including equivalents thereof.

[0263] All patent and non-patent publications cited in this specification, including the websites set forth onpages 8, 13 and 33, are indicative of the level of skill of those skilled in the art to which this invention pertains. All these publications and patent applications are herein incorporated by reference to the same extent as if each individual publication or patent application was specifically and individually indicated to be incorporated herein by reference.

Table I : Bait sequences

1: Bait name	2: Nucleic acid ID No.	3: Nucleic acid sequence	4: Nucleic Positions	5: Amino-acid ID No.	6: Amino-acid Sequence
Shigella ospB	1	ATGAATTTAGATGGTGTTAGACCATACTGTAGAATAGTCAATAAAAAGAATGAAAGCATATCAGATATTGCATTTGCACATATAATAAAAAGGGTAAAAAATTCATCATGTACTCACCCAAAAGCAGCATTGGTTTTTTTAGGAGAGAAAGGTTTTTGTGATAGCAATGATGTTCTATCTATTATGGGACAACAAATACCAAGAGTATTTAAGAACAAGATGTTATATGATTATGTTTTTAAAAATGAAAAAAGTAAAAATGATTTTCTAAAAATGGCTGAATCATGGCTACCACAGAGTGAACCAATAGTAATAAATAATGATGATGACGCATTGAATGCTGCTGCTTATTTTTCTGTAAAAAAAGCGAAAATAAAAACAGTAAACGATACTGATTTTAAAGAGTATAATAAGGTTTATATTCTTGGGCACGGTAGTCCTGGTTCTCATCAATTAGGCCTTGGTTCGGAACTTATTGATGTACAAACAATCATTTCAAGAATGAAAGACTGTGGTATTCTAAATGTGAAAGATATCCGTTTTACTTCATGCGGCTCCGCTGATAAAGTGGCTCCTAAAAATTTTAACAATGCCCCTGCTGAAAGTCTTTCTTGTATCCTTAACTCTCTGCCTTTTTTTAAGGAAAAAGAATCTTTGCTAGAGCAGATAAAAAAACACCTTGAAAACGATGAGTCATTGAGTGATGGTCTAAAAATATCCGGCTATCATGGATATGGAGTTCACTATGGTCAAGAGCTTTTTCCCTACTCACATTATCGTTCAACTTCAATTCCTGCTGATCCGGAGCATACAGTAAAAAGAAGCTCTCAGAAAAAGACTTTTATTATTAATAAAGAACTGGATTAGTATAAAATTTTTAACCTATAG	[1-888]	8	MNLDGVRPYCRIVNKKNESISDIAFAHIIKRVKNSSCTHPKAALVFLGEKGFCDSNDVLSIMGQQIPRVFKNKMLYDYVFKNEKSKNDFLKMAESWLPQSEPIVINNDDDALNAAAYFSVKKAKIKTVNDTDFKEYNKVYILGHGSPGSHQLGLGSELIDVQTIISRMKDCGILNVKDIRFTSCGSADKVAPKNFNNAPAESLSCILNSLPFFKEKESLLEQIKKHLENDESLSDGLKISGYHGYGVHYGQELFPYSHYRSTSIPADPEHTVKRSSQKKTFIINKELD*YKIFNL*
Shigella ospD1	2	ATGTCAATAAATAACTATGGATTACATCCAGCAAACAACAAAAATATGCACCTAATAATAGGCAGCAATACTGCTAATGAAAATAAAGGAATGAAAAATAATATCATTAACGTGACAAATACCGCTATATCCCACGCCATCAATGAAGAAAAATCAGGGGGGGGATATAGTGGTGTTTCTTTCAGAAAATTGGCCAAAATACAGAACATATCCATTCCGACAAAGAATAATAAGGAGTATAACCGCCATAATTTGTTTTCATTGATTTGGCATGGAAATGCCGATGCAGCGCGTAAATACAGTGAATCGCTGTTGGCAGCCGAAATACCCAAAGAGGAAAAACTAGAAGTTCTTGCAGCACGAAATAATGCTGGGGAATCTGCTTTGTTCATAGCTCTTCAAGAAGGTCATTCCGCTGCGATTCAAGCTTATGGAGATTTTATTAAAACTTTTGATTTATCACCAAAAGAAACGATTAAACTATTGGATGTAAGAGATAATGAGGGGTTACCAGGATTATTTCTGGCCGCAGGGAAAGGGAATATCGAGGCTATGATGGCATATATAAATATATGCCATCATAGTGGGATAAAACTTACAGAAATAGCAGACAGACTTAACAATAATGAACAAGACATGTTTAATATTATTTCTGACAAAATACAAGAGTTGTTTTAAGTGTGCTAAATAGCTGCAAAGAATTGCACTTAG	[1-711]	9	MSINNYGLHPANNKNMHLIIGSNTANENKGMKNNIINVTNTAISHAINEEKSGGGYSGVSFRKLAKIQNISIPTKNNKEYNRHNLFSLIWHGNADAARKYSESLLAAEIPKEEKLEVLAARNNAGESALFIALQEGHSAAIQAYGDFIKTFDLSPKETIKLLDVRDNEGLPGLFLAAGKGNIEAMMAYINICHHSGIKLTEIADRLNNNEQDMFNIISDKIQELF*VC*IAAKNCT*
Shigella ospC1	3	ATGAATATATCAGAAACACTGAACTCAGCAAATACCCAATGCAATATAGATTCTATGGATAACAGATTACATACATTGTTTCCAAAAGTGACATCAGTGCGAAACGCTGCACAACAAACTATGCCAGATGAAAAAAATTTAAAAGATAGTGCAAATATTATTAAAGATTTCTTTAGGAAAACTATAGCAGCACAGAGTTATAGTAGAATGTTCTCTCAAGGCTCTAACTTTAAATCTTTAAATATAGCAATTGATGCACCATCAGACGCTAAAGCCTCATTTAAGGCTATTGAGCACCTTGACAGATTATCGAAGCATTATATATCTGAAATAAGGGAAAAACTTCATCCTCTTTCTGCAGAGGAACTCAATTTGCTTTCGCTAATTATTAATTCTGATTTAATCTTCAGACATCAAAGTAATTCTGATTTGTCTGATAAAATTTTAAACATTAAGTCATTC	[1-1434]	10	MNISETLNSANTQCNIDSMDNRLHTLFPKVTSVRNAAQQTMPDEKNLKDSANIIKDFFRKTIAAQSYSRMFSQGSNFKSLNIAIDAPSDAKASFKAIEHLDRLSKHYISEIREKLHPLSAEELNLLSLIINSDLIFRHQSNSDLSDKILNIKSF

		AATAAAATTCAGTCTGAAGGAATATGCACAAAACGAAACACATACGCTGATGATATAAAAAAAATA GCTAATCATGACTTTGTGTTTTTTGGCGTTGAAATCTCTAACCATCAGAAAAAACACCCCCTGAAT ACAAAACATCACACTGTTGATTTTGGTGCAAATGCGTATATCATTGATCATGACTCTCCATATGGA TATATGACATTAACCGATCACTTTGATAATGCTATTCCACCTGTTTTTTACCATGAGCACCAATCA TTTTTAGATAAATTTTCAGAGGTTAATAAAGAAGTTAGTCGATACGTACATGGAAGTAAAGGAATT ATAGATGTACCAATATTCAATACTAAAGATATGAAGTTAGGGCTCGGATTATACCTGATTGACTTT ATTAGAAAAAGTGAAGACCAAAGCTTCAAGGAGTTTTGCTATGGAAAAAATCTTGCCCCTGTGGA TCTGGATAGAATCATAAACTTTGTTTTTCAGCCAGAGTACCATATACCTAGGATGGTAAGTACAG AAAACTTCAAAAAAGTTAAGATTAGAGAAATATCCTTAGAGGAGGCTGTTACAGCATCTAATTACG AAGAAATTAACAAGCAGGTCACTAACAAAAAAATTGCTCTCCAGGCTCTTTTTCTTTCGATTACTA ATCAAAAAGAGGATGTCGCCTTATATATATTATCTAATTTTGAGATAACTAGACAAGATGTTATTTC CATAAAGCATGAGTTGTATGATATTGAGTATCTACTTAGCGCTCATAATTCAAGCTGTAAAGTACT TGAGTATTTTATCAATAAGGGATTGGTTGATGTAAACACAAAGTTCAAAAAAACTAATAGTGGGGA TTGTATGTTGGATAACGCAATAAAATATGAGAATGCAGAAATGATAAAACTATTATTGAAATATGG TGCAACATCTGACAATAAATATATTTAATCAAAATTGAATATCGTTTAG			NKIQSEGICTKRNTYADDIKKIA NHDFVFFGVEISNHQKKHPLN TKHHTVDFGANAYIIDHDSPY GYMTLTDHFDNAIPPVFYHEH QSFLDKFSEVNKEVSRYVHGS KGIIDVPIFNTKDMKLGLGLYLI DFIRKSEDQSFKEFCYGKNLA PVDLDRIINFVFQPEYHIPRMV STENFKKVKIREISLEEAVTAS NYEEINKQVTNKKIALQALFLSI TNQKEDVALYILSNFEITRQDVI SIKHELYDIEYLLSAHNSSCKV LEYFINKGLVDVNTKFKKTNSG DCMLDNAIKYENAEMIKLLLKY GATSDNKYI*SKLNIV*
Shigella ipaD	4	ATGAATATAACAACTCTGACTAATAGTATTTCCACCTCATCATTCAGTCCAAACAATACCAACGGT TCATCAACCGAAACAGTTAATTCTGATATAAAAACAACGACCAGTTCTCATCCTGTAAGTTCCCTT ACTATGCTCAACGACACCCTTCATAATATCAGAACAACAAATCAGGCATTAAAGAAAGAGCTTTC ACAAAAAACGTTGACTAAAACATCGCTAGAAGAAATAGCATTACATTCATCTCAGATTAGCATGG ATGTAAATAAATCCGCTCAACTATTGGATATTCTTTCCAGGAACGAATATCCAATTAATAAAGACG CAAGAGAATTATTACATTCAGCCCCGAAAGAAGCCGAGCTTGATGGAGATCAAATGATATCTCAT AGAGAACTGTGGGCTAAAATTGCAAACTCCATCAATGATATTAATGAACAGTATCTGAAAGTATAT GAACATGCCGTTAGTTCATATACTCAAATGTATCAAGATTTTAGCGCTGTTCTTTCCAGTCTTGCC GGCTGGATCTCTCCCGGAGGTAACGACGGAAACTCCGTGAAATTACAAGTCAACTCGCTTAAAA AGGCATTGGAAGAACTCAAGGAAAAATATAAAGATAAACCGCTATATCCAGCAAATAATACTGTT AGTCAGGAACAAGCAAATAAATGGCTTACAGAATTAGGTGGAACAATCGGCAAGGTATCTCAAAA AAACGGGGGATATGTTGTCAGTATAAACATGACCCCAATAGACAATATGTTAAAAAGCTTAGATA ATCTAGGTGGAAATGGCGAGGTTGTGCTAGATAATGCAAAATATCAGGCATGGAATGCCGGATT CTCTGCCGAAGATGAAACAATGAAAAATAATCTTCAAACTTTAGTTCAAAAATACAGTAATGCCAA TAGTATTTTTGATAATTTAGTAAAGGTTTTGAGTAGTACAATAAGCTCATGTACAGATACAGATAA ACTTTTTCTCCATTTCTGAGGTGCG	[1-1005]	11	MNITTLTNSISTSSFSPNNTNG SSTETVNSDIKTTTSSHPVSSL TMLNDTLHNIRTTNQALKKELS QKTLTKTSLEEIALHSSQISMD VNKSAQLLDILSRNEYPINKDA RELLHSAPKEAELDGDQMISH RELWAKIANSINDINEQYLKVY EHAVSSYTQMYQDFSAVLSSL AGWISPGGNDGNSVKLQVNS LKKALEELKEKYKDKPLYPAN NTVSQEQANKWLTELGGTIGK VSQKNGGYVVSINMTPIDNML KSLDNLGGNGEVVLDNAKYQ AWNAGFSAEDETMKNNLQTL VQKYSNANSIFDNLVKVLSSTI SSCTDTDKLFLHF*GA
Shigella ipaC	5	ATGTTGCAAAAGCAATTTTGCAACAAACTACTGCTTGATACAAATAAGGAGAATGTTATGGAAATT CAAAACACAAAACCAACCCAGACTTTATATACAGATATATCCACAAAACAAACTCAAAGTTCTTCC GAAACACAAAAATCACAAAATTATCAGCAGATTGCAGCGCATATTCCACTTAATGTCGGTAAAAAT CCCGTATTAACAACCACATTAAATGATGATCAACTTTTAAAGTTATCAGAGCAGGTTCAGCATGAT TCAGAAATCATTGCTCGCCTTACTGACAAAAAGATGAAAGATCTTTCAGAGATGAGTCACACCCT TACTCCAGAGAACACTCTGGATATTTCCAGTCTTTCTTCTAATGCTGTTTCTTTAATTATTAGTGTA GCCGTTCTACTTTCTGCTCTCCGCACTGCAGAAACTAAATTGGGCTCTCAATTGTCATTGATTGC GTTCGATGCTACAAAATCAGCTGCAGAGAACATTGTTCGGCAAGGCCTGGCAGCCCTATCATCA	[1-1149]	12	MLQKQFCNKLLLDTNKENVME IQNTKPTQTLYTDISTKQTQSS SETQKSQNYQQIAAHIPLNVG KNPVLTTTLNDDQLLKLSEQV QHDSEIIARLTDKKMKDLSEM SHTLTPENTLDISSLSSNAVSLI ISVAVLLSALRTAETKLGSQLS LIAFDATKSAAENIVRQGLAAL

		AGCATTACTGGAGCAGTCACACAAGTAGGTATAACGGGTATCGGTGCCAAAAAAACGCATTCAG GGATTAGCGACCAAAAAGGAGCCTTAAGAAAGAACCTTGCCACTGCTCAATCTCTTGAAAAAGA GCTTGCAGGTTCTAAATTAGGGTTAAATAAACAAATAGATACAAATATCACCTCACCACAAACTAA CTCTAGCACAAAATTTTTAGGTAAAAATAAACTGGCGCCAGATAATATATCCCTGTCAACTGAACA TAAAACTTCTCTTAGTTCTCCCGATATTTCTTTGCAGGATAAAATTGACACCCAGAGAAGAACTTA CGAGCTCAATACCCTTTCTGCGCAGCAAAAACAAAACATTGGCCGTGCAACAATGGAAACATCA GCCGTTGCTGGTAATATATCCACATCAGGAGGGCGTTATGCATCTGCTCTTGAAGAAGAAGAAC AACTAATCAGTCAGGCCAGCAGTAAACAAGCAGAGGAAGCATCCCAAGTATCTAAAGAAGCATC CCAAGCGACAAATCAATTAATACAAAAATTATTGAATATAATTGACAGCATCAACCAATCAAAGAA TTCGGCAGCCAGTCAGATTGCTGGTAACATTCGAGCTTAA			SSSITGAVTQVGITGIGAKKTH SGISDQKGALRKNLATAQSLE KELAGSKLGLNKQIDTNITSPQ TNSSTKFLGKNKLAPDNISLST EHKTSLSSPDISLQDKIDTQRR TYELNTLSAQQKQNIGRATME TSAVAGNISTSGGRYASALEE EEQLISQASSKQAEEASQVSK EASQATNQLIQKLLNIIDSINQS KNSAASQIAGNIRA*
Shigella ipaH9.8	6	ATGTTACCGATAAATAATAACTTTTCATTGCCCCAAAATTCTTTTTATAACACTATTTCCGGTACAT ATGCTGATTACTTTTCAGCATGGGATAAATGGGAAAAACAAGCGCTCCCCGGTGAAGAGCGTGA TGAGGCTGTCTCCCGACTTAAAGAATGTCTTATCAATAATTCCGATGAACTTCGACTGGACCGTT TAAATCTGTCCTCGCTACCTGACAACTTACCAGCTCAGATAACGCTGCTCAATGTATCATATAATC AATTAACTAACCTACCTGAACTGCCTGTTACGCTAAAAAAATTATATTCCGCCAGCAATAAATTAT CAGAATTGCCCGTGCTACCTCCTGCGCTGGAGTCACTTCAGGTACAACACAATGAGCTGGAAAA CCTGCCAGCTTTACCCGATTCGTTATTGACTATGAATATCAGCTATAACGAAATAGTCTCCTTACC ATCGCTCCCACAGGCTCTTAAAAATCTCAGAGCGACCCGTAATTTCCTCACTGAGCTACCAGCAT TTTCTGAGGGAAATAATCCCGTTGTCAGAGAGTATTTTTTGATAGAAATCAGATAAGTCATATCC CGGAAAGCATTCTTAATCTGAGGAATGAATGTTCAATACATATTAGTGATAACCCATTATCATCCC ATGCTCTGCAAGCCCTGCAAAGATTAACCTCTTCGCCGGACTACCACGGCCCACGGATTTACTT CTCCATGAGTGACGGACAACAGAATACACTCCATCGCCCCCTGGCTGATGCCGTGACAGCATG GTTCCCGGAAAACAAACAATCTGATGTATCACAGATATGGCATGCTTTTGAACATGAAGAGCATG CCAACACCTTTTCCGCGTTCCTTGACCGCCTTTCCGATACCGTCTCTGCACGCAATACCTCCGG ATTCCGTGAACAGGTCGCTGCATGGCTGGAAAAACTCAGTGCCTCTGCGGAGCTTCGACAGCA GTCTTTCGCTGTTGCTGCTGATGCCACTGAGAGCTGTGAGGACCGTGT	[1-1022]	13	MLPINNNFSLPQNSFYNTISGT YADYFSAWDKWEKQALPGEE RDEAVSRLKECLINNSDELRL DRLNLSSLPDNLPAQITLLNVS YNQLTNLPELPVTLKKLYSASN KLSELPVLPPALESLQVQHNE LENLPALPDSLLTMNISYNEIV SLPSLPQALKNLRATRNFLTEL PAFSEGNNPVVREYFFDRNQI SHIPESILNLRNECSIHISDNPL SSHALQALQRLTSSPDYHGPR IYFSMSDGQQNTLHRPLADAV TAWFPENKQSDVSQIWHAFE HEEHANTFSAFLDRLSDTVSA RNTSGFREQVAAWLEKLSAS AELRQQSFAVAADATESCEDR
Shigella ospG	7	ATGAAAATAACATCTACCATTATTCAAACACCTTTTCCATTTGAGAATAATAATTCTCATGCTGGCA TAGTAACGGAGCCCATTCTCGGTAAGTTAATAGGTCAGGGGTCGACAGCAGAAATCTTTGAAGA TGTGAATGATTCATCTGCTTTGTATAAAAAGTATGATCTTATTGGCAACCAGTACAATGAGATTCT GGAAATGGCTTGGCAAGAATCTGAGCTTTTTAATGCTTTTTATGGCGATGAAGCATCCGTTGTTA TACAGTATGGCGGAGATGTGTACCTCCGAATGCTGCGCGTGCCTGGGACTCCCCTTAGTGACAT TGATACAGCTGATATCCCTGATAATATAGAGAGCCTTTATCTACAGTTGATATGTAAATTGAATGA GTTGAGTATAATCCATTACGATCTTAATACAGGTAATATGCTGTATGATAAAGAAAGTGAAAGTTT ATTCCCAATAGATTTTCGCAATATTTATGCTGAATATTACGCTGCAACCAAAAAAGATAAAGAGAT TATCGACCGACGATTACAAATGCGTACAAATGATTTTTATTCGTTATTAAACAGGAAATATTTATA GACGTATTTGTTGATGCTATAA	[1-612]	14	MKITSTIIQTPFPFENNNSHAGI VTEPILGKLIGQGSTAEIFEDV NDSSALYKKYDLIGNQYNEILE MAWQESELFNAFYGDEASVVI QYGGDVYLRMLRVPGTPLSDI DTADIPDNIESLYLQLICKLNEL SIIHYDLNTGNMLYDKESESLF PIDFRNIYAEYYAATKKDKEIID RRLQMRTNDFYSLLNRKYL*T YLLML*

Table II : Bait-prey interactions

1: Bait name	2: Bait nucleic	3: Prey name

	acid SEQ ID No.	
Shigella ospB	1	prey44074 (JM5; prey44078) hJM5
Shigella ospB	1	prey67804 (LOC91851) hhypothetical proteinXP_041083
Shigella ospB	1	prey67806
Shigella ospB	1	prey67810 (FBXO3 FBX3 DKFZp564B092 FBA) hFBXO3
Shigella ospB	1	prey5237 (NONO NRB54 NMT55 P54NRB) hNONO
Shigella ospB	1	prey67661 (CAPN2 CANPL2 CANPML) hCAPN2
Shigella ospB	1	prey34730 (LMO4; prey34731) hLMO4
Shigella ospB	1	prey33141 (ZIN; prey33142) hZIN
Shigella ospB	1	prey67575 (LOC136773) hsimilar to 3-HYDROXYISOBUTYRATE DEHYDROGENASE, MITOCHONDRIAL PRECURSOR (HIBADH) (H.sapiens)
Shigella ospB	1	prey67608 (MGC4126) hMGC4126
Shigella ospB	1	prey67637 (LOC90706) hhypothetical proteinXP_033663
Shigella ospB	1	prey12713 (LMO2 RBTNL1 RHOM2 TTG2 RBTN2; prey12714) hLMO2 hTTG-2a/RBTN-2a
Shigella ospB	1	prey67836 (MYO9A) hMYO9A
Shigella ospB	1	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospB	1	prey67844
Shigella ospB	1	prey67853
Shigella ospB	1	prey66272 (FLJ20254) hFLJ20254
Shigella ospD1	2	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospD1	2	prey2492 (FLJ11026; prey2493) hFLJ11026
Shigella ospD1	2	prey67651 putative homolog of prey064241 - Mouse
Shigella ospD1	2	prey67653 putative homolog of prey067652 -
Shigella ospD1	2	prey67667 (PACSIN2) hPACSIN2
Shigella ospD1	2	prey67657 hUnknown (protein forMGC:16824)
Shigella ospD1	2	prey67501 (LOC51667) hLOC51667
Shigella ospD1	2	prey67678 (LOC90410) hhypothetical proteinXP_031534
Shigella ospD1	2	prey67578 (LOC121052) hhypothetical proteinXP_035313
Shigella ospD1	2	prey67580 (DKFZp586I021) hDKFZp586I021
Shigella ospD1	2	prey3160 (KIF5B UKHC KNS KNS1 U-KHC KINH; prey3161) hKIF5B hkinesin heavychain
Shigella ospD1	2	prey50427 (KIAA0419; prey50428) hKIAA0419
Shigella ospD1	2	prey63765 (LIM; prey63767) hLIM
Shigella ospD1	2	prey67623 (LDB2 CLIM1) hLDB2
Shigella ospD1	2	prey7315 (LDB1 CLIM2 NLI; prey7316) hLDB1 hCLIM2
Shigella ospD1	2	prey67601 (ATIP1 KIAA1288 DKFZp586D1519 FLJ14295) hATIP1
Shigella ospD1	2	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ospD1	2	prey67630

Shigella ospD1	2	prey12665 (CREBL1 CREB-RP G13; prey12666) hCREBL1 hG13
Shigella ospD1	2	prey67631 (FLJ21742) hFLJ21742
Shigella ospD1	2	prey20143 (SYNCOILIN; prey20144) hSYNCOILIN
Shigella ospD1	2	prey1418 (NR1H2 UNR NER NER-I RIP15 LXR-B; prey1419) hNR1H2 hNer-I
Shigella ospD1	2	prey67642 (ALDH3B2 ALDH3B2-PENDING ALDH8) hALDH3B2
Shigella ospD1	2	prey67648 (PON2) hPON2
Shigella ospC1	3	prey67266
Shigella ospC1	3	prey67267
Shigella ospC1	3	prey50590 (TID1; prey48229) hTID1
Shigella ospC1	3	prey9822
Shigella ospC1	3	prey67268
Shigella ospC1	3	prey67270
Shigella ospC1	3	prey67271 (STAT5B STAT5) hSTAT5B
Shigella ospC1	3	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospC1	3	prey3486 (PM5; prey3487) hPM5 hpM5
Shigella ospC1	3	prey14801 (KIAA0321) hKIAA0321
Shigella ospC1	3	prey67279
Shigella ospC1	3	prey67280
Shigella ospC1	3	prey49194 (KIAA0211; prey49195) hKIAA0211
Shigella ospC1	3	prey67287
Shigella ospC1	3	prey19931 (HEF1 CAS-L) hHEF1
Shigella ospC1	3	prey67290
Shigella ospC1	3	prey67291
Shigella ospC1	3	prey67294
Shigella ospC1	3	prey67296
Shigella ospC1	3	prey67299
Shigella ospC1	3	prey4637 (TAF2A BA2R CCG1 CCGS NSCL2 TAFII250; prey4638; prey4639) hTAF2A
Shigella ospC1	3	prey67316
Shigella ospC1	3	prey67318
Shigella ospC1	3	prey7144 (IMMT P87/89 HMP; prey7145) hIMMT hp87/89
Shigella ospC1	3	prey67328 (TSC22) hTSC22
Shigella ospC1	3	prey37430 (WASL N-WASP; prey37432) hWASL hN-WASP
Shigella ospC1	3	prey67351
Shigella ospC1	3	prey67353
Shigella ospC1	3	prey25185 hHSPC272
Shigella ospC1	3	prey4411 (ZNF147 EFP TRIM25 Z147) hZNF147
Shigella ospC1	3	prey2686 (VRP AD3; prey2687) hVRP

Shigella ospC1	3	prey67368 (LOC92609) hhypothetical proteinXP_053074
Shigella ospC1	3	prey67371
Shigella ospC1	3	prey4005 (KIAA0141; prey4006; prey8649; prey44107) hKIAA0141
Shigella ospC1	3	prey67380
Shigella ospC1	3	prey3296 (FHOS; prey3297) hFHOS
Shigella ospC1	3	prey2108 (prey2101; prey2104; prey2107; prey2102; prey2103) hSimilar to COP9 (constitutive photomorphogenic), subunit 5(Arabidopsis) hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens) hCOPS5 hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens) hCOPS5 hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens)
Shigella ospC1	3	prey67403
Shigella ospC1	3	prey67405
Shigella ospC1	3	prey14400 (prey14399; prey14401) hprotein phosphatase 5, catalyticsubunit hPPP5C hPPP5C
Shigella ospC1	3	prey50029
Shigella ipaD	4	prey67563 (PRSC1) hPRSC1
Shigella ipaD	4	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ipaD	4	prey25185 hHSPC272
Shigella ipaD	4	prey53990 (TNFRSF1A CD120a TNF-R TNF-R-I TNF-R55 TNFAR TNFR60 TNFR1 p55-R p55) hTNFRSF1A
Shigella ipaD	4	prey9120 (VIM; prey9122) hVIM hvimentin
Shigella ipaD	4	prey67571
Shigella ipaD	4	prey67572
Shigella ipaD	4	prey65696 (KARS KIAA0070; prey65697) hKARS hLysyl tRNASynthetase
Shigella ipaD	4	prey8889 (PLCB3) hPLCB3
Shigella ipaD	4	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaD	4	prey2694 (INDO IDO; prey2696; prey2693) hINDO hINDO
Shigella ipaD	4	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaD	4	prey67574
Shigella ipaC	5	prey67509 (POLR2A RPOL2 POLR2 POLRA hRPB220 hsRPB1 RPO2 RpIILS RPBh1 RPB1) hPOLR2A
Shigella ipaC	5	prey67514
Shigella ipaC	5	prey2926 (FLJ23153; prey2927) hFLJ23153
Shigella ipaC	5	prey4458 (RRBP1 ES130 ES/130; prey4459) hRRBP1 hES/130
Shigella ipaC	5	prey4458 (RRBP1 ES130 ES/130; prey4459) hRRBP1 hES/130
Shigella ipaC	5	prey67522
Shigella ipaC	5	prey527 (CLTC CLTCL2 KIAA0034; prey528) hCLTC hKIAA0034
Shigella ipaC	5	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaC	5	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaC	5	prey67546 (LOC128116) hsimilar to phosphodiesterase 4D interacting protein (myomegalin) (H.sapiens)
Shigella ipaC	5	prey4671 (KIAA0454) hKIAA0454

Shigella ipaC	5	prey67550 (LOC92689) hhypothetical proteinXP_046663
Shigella ipaC	5	prey8889 (PLCB3) hPLCB3
Shigella ipaC	5	prey11375 (HSPBP1; prey11376) hHSPBP1 hHsp70 binding proteinHspBP1
Shigella ipaC	5	prey67473 (GALE) hGALE
Shigella ipaC	5	prey8929 (KIAA0728 FLJ21489) hKIAA0728
Shigella ipaC	5	prey3488 (ACF7 ABP620 KIAA1251 KIAA0465) hACF7
Shigella ipaC	5	prey3514 (SNX1; prey3515) hSNX1
Shigella ipaC	5	prey5814 (USP9X DFFRX) hUSP9X
Shigella ipaC	5	prey5814 (USP9X DFFRX) hUSP9X
Shigella ipaC	5	prey67479
Shigella ipaC	5	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaC	5	prey67481 (GDBR1 GBDR1) hGDBR1
Shigella ipaC	5	prey67488 (LOC126257) hsimilar to putative (H.sapiens)
Shigella ipaC	5	prey51967 (UBQLN1 DSK2 PLIC-1 DA41 XDRP1) hUBQLN1
Shigella ipaC	5	prey67491 (KIAA1007 AD-005) hKIAA1007
Shigella ipaC	5	prey323 (CSH1 CSMT CSA PL; prey324; prey325) hCSH1
Shigella ipaC	5	prey67495
Shigella ipaC	5	prey67506 (LOC126083) hdynamin2
Shigella ipaC	5	prey4578 (PSAP SAP1 GLBA; prey5664) hPSAP hGLBA
Shigella ipaC	5	prey1135 (PSMD1 P112 S1; prey1136) hPSMD1 hproteasome subunitp112
Shigella ipaC	5	prey67465 (COL4A2 FLJ22259) hCOL4A2
Shigella ipaC	5	prey28880 (KPNA4; prey28881) hKPNA4 hQIP1
Shigella ipaC	5	prey3599 (TRIP12 KIAA0045; prey3600) hTRIP12 hKIAA0045
Shigella ipaH9.8	6	prey67717
Shigella ipaH9.8	6	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaH9.8	6	prey67718 (KIAA1715) hKIAA1715
Shigella ipaH9.8	6	prey2530 harrestin, beta1
Shigella ipaH9.8	6	prey67731 (LOC126896) hsimilar to Gene 33/Mig-6 (H.sapiens)
Shigella ipaH9.8	6	prey7155 (CSH2 CSB) hCSH2
Shigella ipaH9.8	6	prey1687 (DCTN1) hDCTN1
Shigella ipaH9.8	6	prey67734 (FLJ10618) hFLJ10618
Shigella ipaH9.8	6	prey2694 (INDO IDO; prey2696; prey2693) hINDO hINDO
Shigella ipaH9.8	6	prey67740
Shigella ipaH9.8	6	prey67703 (PPP2R4 PTPA) hPPP2R4
Shigella ipaH9.8	6	prey67741
Shigella ipaH9.8	6	prey67742 (FLJ20313) hFLJ20313
Shigella ipaH9.8	6	prey67339 (MMP19 RASI-1 MMP18) hMMP19

Shigella ipaH9.8	6	prey67337 (MMP19 RASI-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey67746 (FBXO25 FBX25) hFBXO25
Shigella ipaH9.8	6	prey54430 (PSG4 PSG9) hPSG4
Shigella ipaH9.8	6	prey67749
Shigella ipaH9.8	6	prey67751
Shigella ipaH9.8	6	prey8739 (MLL2 ALR; prey8742) hMLL2 hALR
Shigella ipaH9.8	6	prey18232 (CCT3 TRIC5 CCTG; prey18233) hCCT3 hCctg
Shigella ipaH9.8	6	prey66739 (EIF2B1 EIF2B EIF-2B) hEIF2B1
Shigella ipaH9.8	6	prey67769 (PP2135 FLJ00041) hPP2135
Shigella ipaH9.8	6	prey13613 (KIAA0970) hKIAA0970
Shigella ipaH9.8	6	prey3337 (LMNA LMN1 EMD2 FPL LFP LDP1 FPLD CMD1A; prey14196) hLMNA
Shigella ipaH9.8	6	prey67774 (LOC119758) hsimilar to REGULATOR OF PRESYNAPTIC ACTIVITY AEX-3 (H.sapiens)
Shigella ipaH9.8	6	prey67776
Shigella ipaH9.8	6	prey4758 (DKFZP761L0424 KIAA1217) hDKFZP761L0424
Shigella ipaH9.8	6	prey67781 putative homolog of prey046760 - Mouse Fmnl
Shigella ipaH9.8	6	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ipaH9.8	6	prey4060 (KIAA0155; prey4061; prey4062) hKIAA0155
Shigella ipaH9.8	6	prey49284 (SLC7A8 LAT2) hSLC7A8
Shigella ipaH9.8	6	prey67686
Shigella ipaH9.8	6	prey66872 (MRPS9) hMRPS9
Shigella ipaH9.8	6	prey67690 (RRP4) hRRP4
Shigella ipaH9.8	6	prey67695 (ATP6N1B RDRTA2 RTA1C VPP2 RTADR) hATP6N1B
Shigella ipaH9.8	6	prey67336 (MMP19 RASI-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey6299 (KIAA0335; prey6300) hKIAA0335
Shigella ipaH9.8	6	prey6586 (FLNA ABPX ABP-280 FLN FLN1 NHBP; prey6587) hFLNA
Shigella ipaH9.8	6	prey56789 (ALDH4 P5CDH; prey56791) hALDH4 hP5CDh
Shigella ipaH9.8	6	prey67711
Shigella ipaH9.8	6	prey2118 (RNF2 dinG Bap-1; prey2119) hRNF2 hring finger proteinBAP-1
Shigella ipaH9.8	6	prey3596 (DDX15 HRH2 DBP1; prey3597) hDDX15 hATP-dependent RNA helicase#46
Shigella ipaH9.8	6	prey666 (RANBP16 KIAA0745; prey667; prey665; prey9721) hRANBP16 hRAN binding protein16 hRANBP16 hRANBP16
Shigella ospG	7	prey3917 (BTBD2 FLJ20386; prey3920; prey3918; prey3921; prey3922; prey3919) hBTBD2
Shigella ospG	7	prey63632 (ZNF189; prey63789) hZNF189
Shigella ospG	7	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ospG	7	prey54201 (UBE2D3 UBCH5C; prey54202) hUBE2D3 hUBCH5C
Shigella ospG	7	prey1922 (DLST DLTS; prey1923) hDLST hE2K
Shigella ospG	7	prey67418 (UBE2L3 UBCH7) hUBE2L3

Shigella ospG	7	prey67314 (UBE2L6 UBCH8 RIG-B) hUBE2L6
Shigella ospG	7	prey67435 hUnknown (protein forMGC:3432)
Shigella ospG	7	prey67443 (FLJ11807) hFLJ11807
Shigella ospG	7	prey67317 (KIAA1485) hKIAA1485
Shigella ospG	7	prey67393 (UBE2D2 UBCH5B UBC4) hUBE2D2
Shigella ospG	7	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospG	7	prey67411 (UBE2E3 UBCH9) hUBE2E3
Shigella ospG	7	prey67423
Shigella ospG	7	prey67298
Shigella ospG	7	prey67464
Shigella ospG	7	prey67320
Shigella ospG	7	prey67321
Shigella ospG	7	prey35777 (PSG2 PSBG2 PSGGB; prey35778) hPSG2 hPSG1
Shigella ospG	7	prey67327 (AKAP13 HT31 BRX) hAKAP13
Shigella ospG	7	prey412 (RPN2; prey413) hRPN2 hsignalpeptide
Shigella ospG	7	prey50598 (PEX10 NALD; prey50599) hPEX10 hperoxisome assembly proteinPEX10
Shigella ospG	7	prey67364
Shigella ospG	7	prey67367
Shigella ospG	7	prey67369
Shigella ospG	7	prey67372 (CD63 MLA1 ME491) hCD63
Shigella ospG	7	prey67379
Shigella ospG	7	prey67381 (LOC131541) hhypothetical proteinXP_059524

ospB	1	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospB	1	gb|AC005091|AC005091 Homo sapiens BAC clone CTA-318C11 from 7p14-p15, complete sequence.
ospB	1	gb|AF117888|AF117888 Homo sapiens myosin-IXa mRNA, complete cds.
ospB	1	gb|AF141347|AF141347 Homo sapiens hum-a-tub2 alpha-tubulin mRNA, complete cds.
ospB	1	gb|AF176702|AF176702 Homo sapiens F-box protein FBX3 mRNA, partial cds.
ospB	1	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ospB	1	gb|AF212940|AF212940 Homo sapiens zinedin (ZIN) mRNA, complete cds.
ospB	1	gb|AF257211|AF257211 Homo sapiens LMO2b splice variant (LMO2) mRNA, complete cds.
ospB	1	gb|AJ005897|HSA005897 Homo sapiens mRNA for JM5 protein, complete CDS (clone IMAGE 53337, LLNLc110F1857Q7 (RZPD Berlin) and LLNLc110G0913Q7 (RZPD Berlin)).
ospB	1	gb|AK024239|AK024239 Homo sapiens cDNA FLJ14177 fis, clone NT2RP2003161.
ospB	1	gb|AL049176|HS141H5 Human DNA sequence from clone 141H5 on chromosome Xq22.1-23. Contains parts of a novel Chordin LIKE protein with von Willebrand factor type C domains. Contains ESTs, STSs and GSSs, complete sequence.
ospB	1	gb|AL122043|HSM801240 Homo sapiens mRNA; cDNA DKFZp566G1424 (from clone DKFZp566G1424).
ospB	1	gb|AL442166|HSMX1A Homo sapiens chromosome 21 from 5 PACs and 5 Cosmids map 21q22.2,D21S349-MX1; segment 1/2, complete sequence.
ospB	1	gb|AP002026|AP002026 Homo sapiens genomic DNA, chromosome 4q22-q24, clone:429K21, complete sequence.
ospB	1	gb|D21260|HUMORFEA Human mRNA for KIAA0034 gene, complete cds.
ospB	1	gb|L14599|HUMPSFHOMO Human mRNA, complete cds.
ospB	1	gb|L28809|HUMAAE Homo sapiens dbpB-like protein mRNA, complete cds.
ospB	1	gb|M23254|HUMCANP Human Ca2-activated neutral protease large subunit (CANP) mRNA, complete cds.
ospB	1	gb|U24576|U24576 Homo sapiens breast tumor autoantigen (LMO4) mRNA, complete cds.
ospB	1	gb|X61118|HSTTG2 Human TTG-2 mRNA for a cysteine rich protein with LIM motif.
ospD1	2	gb|AB007879|AB007879 Homo sapiens KIAA0419 mRNA, complete cds.
ospD1	2	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospD1	2	gb|AB016485|AB016485 Homo sapiens mRNA for LIM homeobox protein cofactor (CLIM-2), complete cds.
ospD1	2	gb|AB028956|AB028956 Homo sapiens mRNA for KIAA1033 protein, partial cds.
ospD1	2	gb|AB033114|AB033114 Homo sapiens mRNA for KIAA1288 protein, partial cds.
ospD1	2	gb|AC003108|HUAC003108 Human Chromosome 16 BAC clone CIT987SK-327O24, complete sequence.
ospD1	2	gb|AC008764|AC008764 Homo sapiens chromosome 19 clone CTD-3222D19, complete sequence.
ospD1	2	gb|AF001601|AF001601 Homo sapiens paraoxonase (PON2) mRNA, complete cds.
ospD1	2	gb|AF006466|AF006466 Mus musculus lymphocyte specific formin related protein (Fr1) mRNA, complete cds.
ospD1	2	gb|AF061258|AF061258 Homo sapiens LIM protein mRNA, complete cds.

ospD1	2	gb|AF068651|AF068651 Homo sapiens LIM-domain binding factor CLIM1 (CLIM1) mRNA, complete cds.
ospD1	2	gb|AF128536|AF128536 Homo sapiens cytoplasmic phosphoprotein PACSIN2 mRNA, complete cds.
ospD1	2	gb|AF155099|AF155099 Homo sapiens NY-REN-18 antigen mRNA, complete cds.
ospD1	2	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ospD1	2	gb|AF265342|AF265342 Homo sapiens chromosome 8 map 8p BAC 2053N22, complete sequence.
ospD1	2	gb|AK001888|AK001888 Homo sapiens cDNA FLJ11026 fis, clone PLACE1004104.
ospD1	2	gb|AL121808|CNS01DSJ Human chromosome 14 DNA sequence *** IN PROGRESS *** BAC C-2313O13 of library CalTech-D from chromosome 14 of Homo sapiens (Human), complete sequence.
ospD1	2	gb|AQ628981|AQ628981 RPCI-11-469I15.TJ RPCI-11 Homo sapiens genomic clone RPCI-11-469I15 , DNA sequence.
ospD1	2	gb|B88348|B88348 CIT-HSP-2063N18.TFB CIT-HSP Homo sapiens genomic clone 2063N18, DNA sequence.
ospD1	2	gb|M57298|HUMGPG25K Human GTP-binding protein G25K mRNA, complete cds.
ospD1	2	gb|M63960|HUMPRPHOS1 Human protein phosphatase-1 catalytic subunit mRNA, complete cds.
ospD1	2	gb|U07132|HSU07132 Human steroid hormone receptor Ner-I mRNA, complete cds.
ospD1	2	gb|U31903|HSU31903 Human CREB-RP (creb-rp) mRNA, complete cds.
ospD1	2	gb|U37519|HSU37519 Human aldehyde dehydrogenase (ALDH8) mRNA, complete cds.
ospD1	2	gb|X65873|HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ospD1	2	gb|X65873|HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ospD1	2	gb|X65873|HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ipaD	4	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ipaD	4	gb|AF161390|AF161390 Homo sapiens HSPC272 mRNA, partial cds.
ipaD	4	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ipaD	4	gb|D32053|D32053 Homo sapiens mRNA for Lysyl tRNA Synthetase, complete cds.
ipaD	4	gb|D55696|D55696 Homo sapiens mRNA for cysteine protease, complete cds.
ipaD	4	gb|M14144|HUMVIM Human vimentin gene, complete cds.
ipaD	4	gb|M34455|HUMIGIIDO Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds.
ipaD	4	gb|M63121|HUMTNFRC Human tumor necrosis factor receptor (TNF receptor) mRNA, complete cds.
ipaD	4	gb|U70734|HSU70734 Homo sapiens 38 kDa Mov34 homolog mRNA, complete cds.
ipaD	4	gb|Z26649|HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaD	4	gb|Z26649|HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaC	5	gb|AB002366|AB002366 Human mRNA for KIAA0368 gene, partial cds.
ipaC	5	gb|AB002533|AB002533 Homo sapiens mRNA for Qip1, complete cds.
ipaC	5	gb|AB007923|AB007923 Homo sapiens mRNA for KIAA0454 protein, partial cds.
ipaC	5	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ipaC	5	gb|AB018271|AB018271 Homo sapiens mRNA for KIAA0728 protein, partial cds.

<table>
<tr><td>ipaC</td><td>5</td><td>gb|AB020335|AB020335 Homo sapiens Pancreas-specific TSA305 mRNA , complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AB023224|AB023224 Homo sapiens mRNA for KIAA1007 protein, partial cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AB029290|AB029290 Homo sapiens mRNA for actin binding protein ABP620, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AB046026|AB046026 Macaca fascicularis brain cDNA, clone:QccE-16688.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AC003991|AC003991 Human BAC clone CTB-167B5 from 7q21, complete sequence.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AC005578|AC005578 Homo sapiens chromosome 19, cosmid F20887, complete sequence.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF100153|AF100153 Homo sapiens connector enhancer of KSR-like protein CNK1 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF176069|AF176069 Homo sapiens ubiquilin mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF176069|AF176069 Homo sapiens ubiquilin mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF176796|AF176796 Homo sapiens putative glialblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF176796|AF176796 Homo sapiens putative glialblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF176796|AF176796 Homo sapiens putative glialblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF187859|AF187859 Homo sapiens Hsp70 binding protein HspBP2 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AF189009|AF189009 Homo sapiens ubiquitin-like product Chap1/Dsk2 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|AK000982|AK000982 Homo sapiens cDNA FLJ10120 fis, clone HEMBA1002863.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|D21260|HUMORFEA Human mRNA for KIAA0034 gene, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|D28476|HUMKG1C Human mRNA for KIAA0045 gene, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|D44466|D44466 Homo sapiens mRNA for proteasome subunit p112, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|J00118|HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|J00118|HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|J04164|HUM927A Human interferon-inducible protein 9-27 mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|L36983|HUMDNM Homo sapiens dynamin (DNM) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|L41498|HUMPTI1B Homo sapiens longation factor 1-alpha 1 (PTI-1) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|L41668|HUMGALE Homo sapiens UDP-galactose-4-epimerase (GALE) mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|M24766|HUMCOL4A2P Human (clone pHAIV2-12) alpha-2 collagen type IV (COL4A2) mRNA, 3' end.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|M81355|HUMSPHINO Homo sapiens sphingolipid activator proteins 1 and 2 processed mutant mRNA, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|U02389|HSU02389 Human hLON ATP-dependent protease mRNA, nuclear gene encoding mitochondrial protein, complete cds.</td></tr>
<tr><td>ipaC</td><td>5</td><td>gb|U53225|HSU53225 Human sorting nexin 1 (SNX1) mRNA, complete cds.</td></tr>
</table>

ipaC	5	gb|X05610|HSC4A2 Human mRNA for type IV collagen alpha (2) chain.
ipaC	5	gb|X63564|HSRPIILS H.sapiens mRNA for RNA polymerase II largest subunit.
ipaC	5	gb|X98296|HSUBIQHYD H.sapiens mRNA for ubiquitin hydrolase.
ipaC	5	gb|Z26649|HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaH9.8	6	dbj|AB001636.1|AB001636 Homo sapiens mRNA for ATP-dependent RNA helicase #46, complete cds
ipaH9.8	6	dbj|AB002333.1|AB002333 Human mRNA for KIAA0335 gene, complete cds
ipaH9.8	6	dbj|AB008515.1|AB008515 Homo sapiens mRNA for RanBPM, complete cds
ipaH9.8	6	dbj|AB023187.1|AB023187 Homo sapiens mRNA for KIAA0970 protein, complete cds
ipaH9.8	6	dbj|AB033043.1|AB033043 Homo sapiens mRNA for KIAA1217 protein, partial cds
ipaH9.8	6	dbj|AK001451.1|AK001451 Homo sapiens cDNA FLJ10589 fis, clone NT2RP2004389, weakly similar to PROBABLE MITOCHONDRIAL 40S RIBOSOMAL PROTEIN S9 PRECURSOR
ipaH9.8	6	dbj|AK024449.1|AK024449 Homo sapiens mRNA for FLJ00041 protein, partial cds
ipaH9.8	6	dbj|D63875.1|D63875 Human mRNA for KIAA0155 gene, complete cds
ipaH9.8	6	emb|AL034405.16|HS537K23 Human DNA sequence from clone RP4-537K23 on chromosome Xq25-26.1, complete sequence [Homo sapiens]
ipaH9.8	6	emb|AL034417.14|HS215D11 Human DNA sequence from clone 215D11 on chromosome 1p36.12-36.33 Contains a gene for a RNA-binding protein regulatory subunit, a gene similar to rat gene 33, a pseudogene similar to PLA-X, ESTs, STSs, GSSs and CpG islands, complete sequence [Homo sapie
ipaH9.8	6	emb|AL050313.6|HSBK754D9 Human DNA sequence from clone CTA-754D9 on chromosome 22 Contains GSSs, complete sequence [Homo sapiens]
ipaH9.8	6	emb|AL117448.1|HSM800958 Homo sapiens mRNA; cDNA DKFZp586B1417 (from clone DKFZp586B1417); partial cds
ipaH9.8	6	emb|AL137068.10|AL137068 Human DNA sequence from clone RP11-165P4 on chromosome 9q34.11-34.13, complete sequence [Homo sapiens]
ipaH9.8	6	emb|X53416.1|HSABP280 Human mRNA for actin-binding protein (filamin) (ABP-280)
ipaH9.8	6	emb|X73478.1|HSPTPAA H.sapiens hPTPA mRNA
ipaH9.8	6	emb|X74801.1|HSHUMAPC H.sapiens Cctg mRNA for chaperonin
ipaH9.8	6	emb|X95648.1|HSEIF2BAS H.sapiens mRNA for eIF-2B alpha subunit
ipaH9.8	6	gb|AC005392.1|AC005392 Homo sapiens chromosome 19, CIT-HSP BAC 490g23 (BC338531), complete sequence
ipaH9.8	6	gb|AC005833.1|AC005833 Homo sapiens 12p13.3 BAC RPCI11-234B24 (Roswell Park Cancer Institute Human BAC Library) complete sequence
ipaH9.8	6	gb|AC005881.3|AC005881 citb_79_e_16, complete sequence [Homo sapiens]
ipaH9.8	6	gb|AC020663.1|AC020663 Homo sapiens chromosome 16 clone RPCI-11_127I20, complete sequence
ipaH9.8	6	gb|AF006466.1|AF006466 Mus musculus lymphocyte specific formin related protein (Fr1) mRNA, complete cds
ipaH9.8	6	gb|AF010404.1|AF010404 Homo sapiens ALR mRNA, complete cds

<table>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF064729.1|AF064729 Homo sapiens RAN binding protein 16 mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF084940.1|AF084940 Homo sapiens beta-arrestin 1B mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF135159.1|AF135159 Homo sapiens GMP reductase mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF139184.1|AF139184 Homo sapiens Sec31 protein mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF141327.1|AF141327 Homo sapiens ring finger protein BAP-1 mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF171669.1|AF171669 Homo sapiens glycoprotein-associated amino acid transporter LAT2 (LAT2) mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF174605.1|AF174605 Homo sapiens F-box protein Fbx25 (FBX25) mRNA, partial cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF207661.1|AF207661 Homo sapiens sodium bicarbonate cotransporter-like protein mRNA, partial cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF245517.1|AF245517 Homo sapiens vacuolar proton pump 116 kDa accessory subunit (ATP6N1B) mRNA, complete cds, alternatively spliced</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|AF249874.1|AF249874 Homo sapiens vacuolar proton pump 116 kDa accessory subunit gene, exon 3 and 5' untranslated region, partial sequence</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|J00118.1|HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|L14283.1|HUMPROKINC Human protein kinase C zeta mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|L25286.1|HUMCOLXVA1 Homo sapiens alpha-1 type XV collagen mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|M13451.1|HUMLAMC Human lamin C mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|M21616.1|HUMPDGFR Human platelet-derived growth factor (PDGF) receptor mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|M32053.1|HUMH19 Human H19 RNA gene, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|M34455.1|HUMIGIIDO Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|M94890.1|HUMPSBG11 Human pregnancy-specific beta-1-glycoprotein 11 (PSG11) mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|M98478.1|HUMTGH1A Human transglutaminase mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|U24267.1|HSU24267 Human pyrroline-5-carboxylate dehydrogenase (P5CDh) mRNA, short form, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|U37791.1|HSU37791 Homo sapiens clone rasi-1 matrix metalloproteinase RASI-1 mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|U38431.1|HSU38431 Human clone rasi-6 matrix metalloproteinase RASI-1 mRNA, splice variant, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>gb|U65928.1|HSU65928 Human Jun activation domain binding protein mRNA, complete cds</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>ref|NM_014285.1| Homo sapiens homolog of Yeast RRP4 (ribosomal RNA processing 4), 3'-5'-exoribonuclease (RRP4), mRNA</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>ref|NM_017762.1| Homo sapiens hypothetical protein FLJ20313 (FLJ20313), mRNA</td></tr>
<tr><td>ipaH9.8</td><td>6</td><td>ref|NM_018155.1| Homo sapiens hypothetical protein FLJ10618 (FLJ10618), mRNA</td></tr>
<tr><td>ospG</td><td>7</td><td>gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.</td></tr>
<tr><td>ospG</td><td>7</td><td>gb|AB013818|AB013818 Homo sapiens PEX10 mRNA for peroxisome biogenesis factor (peroxin) 10, complete cds.</td></tr>
<tr><td>ospG</td><td>7</td><td>gb|AB033054|AB033054 Homo sapiens mRNA for KIAA1228 protein, partial cds.</td></tr>
<tr><td>ospG</td><td>7</td><td>gb|AB033054|AB033054 Homo sapiens mRNA for KIAA1228 protein, partial cds.</td></tr>
<tr><td>ospG</td><td>7</td><td>gb|AB040918|AB040918 Homo sapiens mRNA for KIAA1485 protein, partial cds.</td></tr>
<tr><td>ospG</td><td>7</td><td>gb|AC005281|AC005281 Homo sapiens PAC clone RP4-722F20 from 7q31.1-q31.3, complete sequence.</td></tr>
</table>

ospG	7	gb|AE003603|AE003603 Drosophila melanogaster genomic scaffold 142000013386043 section 4 of 8, complete sequence.
ospG	7	gb|AF033095|AF033095 Homo sapiens testis enhanced gene transcript protein (TEGT) mRNA, complete cds.
ospG	7	gb|AF035121|AF035121 Homo sapiens KDR/flk-1 protein mRNA, complete cds.
ospG	7	gb|AF061736|AF061736 Homo sapiens ubiquitin-conjugating enzyme RIG-B mRNA, complete cds.
ospG	7	gb|AF085362|AF085362 Homo sapiens UbcM2 mRNA, complete cds.
ospG	7	gb|AF104913|AF104913 Homo sapiens eukaryotic protein synthesis initiation factor mRNA, complete cds.
ospG	7	gb|AF155238|AF155238 Homo sapiens BAC 180i23 chromosome 8 map 8q24.3 beta-galactoside alpha-2,3-sialyltransferase (SIAT4A) gene, complete sequence.
ospG	7	gb|AJ000519|HSUBICONJ Homo sapiens mRNA for ubiquitin-conjugating enzyme UbcH7.
ospG	7	gb|AK000393|AK000393 Homo sapiens cDNA FLJ20386 fis, clone KAIA4184.
ospG	7	gb|AK001311|AK001311 Homo sapiens cDNA FLJ10449 fis, clone NT2RP1000947, highly similar to Human E2 ubiquitin conjugating enzyme UbcH5B mRNA.
ospG	7	gb|AL050321|HSJ717M23 Human DNA sequence from clone RP4-717M23 on chromosome 20, complete sequence.

Table III : SID®

1: Bait name	2: Bait nucleic acid SEQ ID No.	3: Prey name	4: SID nucleic acid ID No.	5: SID nucleic acid sequence	6: SID amino-acid ID No.	7: SID amino-acid sequence
Shigella ospB	1	prey44074	15	CTTCAGCCACGACTCCTCCTTCCTCTGCGCTTCCAGTGATAAGGGTACTGTC CATATCTTTGCTCTCAAGGATACCCGCCTCAACCGCCGCTCCGCGCTGGCTC GCGTGGGCAAGGTGGGGCCTATGATTGGGCAGTACGTGGACTCTCAGTGGA GCCTGGCGAGCTTCACTGTGCCTGCTGAGTCAGCTTGCATCTGCGCCTTCG GTCGCAATACTTCCAAGAACGTCAACTCTGTCATTGCCATCTGCGTAGATGG GACCTTCCACAAATATGTCTTCACTCCTGATGGAAACTGCAACAGAGAGGCT TTCGACGTGTACCTTGACATCTGTGATGATGATGACTTTTAA	216	FSHDSSFLCASSDKGTVHI FALKDTRLNRRSALARVGK VGPMIGQYVDSQWSLASF TVPAESACICAFGRNTSKN VNSVIAICVDGTFHKYVFTP DGNCNREAFDVYLDICDDD DF*
Shigella ospB	1	prey67804	16	GACCAGCAAGTCTTGCGAGTACAATGGGACAACTTACCAACATGGAGAGCT GTTCGTAGCTGAAGGGCTCTTTCAGAATCGGCAACCCAATCAATGCACCCAG TGCAGCTGTTCGGAGGGAAACGTGTATTGTGGTCTCAAGACTTGCCCCAAAT TAACCTGTGCCTTCCCAGTCTCTGTTCCAGATTCCTGCTGCCGGGTATGCAG AGGAGATGGAGAACTGTCATGGGAACATTCTGATGGTGATATCTTCCGGCAA CCTGCCAACAGAGAAGCAAGACATTCTTACCACCGCTCTCACTATGATCCTC CACCAAGCCGACAGGCTGGAGGTCTGTCCCGCTTTCCTGGGGCCAGAAGTC ACCGGGGAGCTCTTATGGATTCCCAGCAAGCATCAGGAACCATTGTGCAAAT TGTCATCAATAACAAACACAAGCATGGACAAGTGTGTGTTTCCAATGGAAAG ACCTATTCTCATGGCGAGTCCTGGCACCCAAACCTCCGGGCATTTGGCATTG TGGAGTGTGTGCTATGTACTTGTAATGTCACCAAGCAAGAGTGTAAGAAAAT CCACTGCCCCAATCGATACCCCTGCAAGTATCCTCAAAAAATAGACGGAAAA TGCTGCAAGGTGTGTCCAGGTAAAAAAGCAAAAGAACTTCCAGGCCAAAGCT TTGACAATAAAGGCTACTTCTGCGGGGAAGAAACGATGCCTGTGTATGAGTC TGTATTCATGGAGGATGGGGAGACAACCAGAAAAATAGCACTGGAGACTGA GAGACCACCTCAGGTAGAGGTCCACGTTTGGACTATTCGAAAGGGCATTCTC CAGCACTTCCATATTGAGAAGATCTCCAAGAGGATGTTTGAGGAGCTTCCTC ACTTCAAGCTGGTGACCAGAACAACCCTGAGCCAGTGGAAGATCTTCACCGA AGGAGAAGCTCAGATCAGCCAGATGTGTTCAAGTCGTGTATGCAGAACAGA GCTTGAAGATTTAGTCAAGGTTTTGTACCTGGAGAGATCTGAAAAGGGCCAC TGTTAG	217	TSKSCEYNGTTYQHGELFV AEGLFQNRQPNQCTQCSC SEGNVYCGLKTCPKLTCAF PVSVPDSCCRVCRGDGEL SWEHSDGDIFRQPANREA RHSYHRSHYDPPPSRQAG GLSRFPGARSHRGALMDS QQASGTIVQIVINNKHKHG QVCVSNGKTYSHGESWHP NLRAFGIVECVLCTCNVTK QECKKIHCPNRYPCKYPQK IDGKCCKVCPGKKAKELPG QSFDNKGYFCGEETMPVY ESVFMEDGETTRKIALETE RPPQVEVHVWTIRKGILQH FHIEKISKRMFEELPHFKLV TRTTLSQWKIFTEGEAQISQ MCSSRVCRTELEDLVKVLY LERSEKGHC*
Shigella ospB	1	prey67806	17	NCTNCCCTGNGCGNGACCAGCCTGGTNANCTTACCNGGANCCACNGGATGT NGTGTANCTGTGCTCTGCGCTTGCCATGATGACTTNTGGGAGCTGCANCCG TCGCGTTTNTGNNNCGTNGTTGGTGNCNGGCCTCCNTANGNTGTGNNACGA	218	XXLXXTSLVXLPGXTGCXV XVLCACHDDXWELXPSRX XXVVGXXPPXXVXRRLXFA

				AGACTGTTNTTTGCTAAGGACCTGCNGTNTGCTGCTTCATTNGGNGAGNTTT NNTTAGGGGGNGNNTTATTNCTAAAATNTTGGGACTCTTAAGTTTTNGNTGN GGTTTTTNTNGNNAAGAA		KDLXXAASXGEXXLGGXLX LKXWDS*VXXXVFXXK
Shigella ospB	1	prey67810	18	GGCGGCCATGGAGACCGAGACGGCGCCGCTGACCCTAGAGTCGCTGCCCA CCGATCCCCTGCTCCTCATCTTATCCTTTTTGGACTATCGGGATCTAATCAAC TGTTGTTATGTCAGTCGAAGACTTAGCCAGCTATCAAGTCATGATCCGCTGT GGAGAAGACATTGCAAAAAATACTGGCTGATATCTGAGGAAGAGAAAACACA GAAGAATCAGTGTTGGAAATCTCTCTTCATAGATACTTACTCTGATGTAGGAA GATACATTGACCATTATGCTGCTATTAAAAAGGCCTGGGATGATCTCAAGAAA TATTTGGAGCCCAGGTGTCCTCGGATGGTTTTATCTCTGAAAGAGGGTGCTC GAGAGGAAGACCTCGATGCTGTGGAAGCGCAGATTGGCTGCAAGCTTCCTG ACGATTATCGATGTTCATACCGAATTCACAATGGACAGAAGTTAGTGGTTCCT GGGTTATTGGGAAGCATGGCACTGTCTAATCACTATCGTTCTGAAGATTTGTT AGACGTCGATACAGCTGCCGGAGGATTCCAGCAGAGACAGGGACTGAAATA CTGTCTCCCTTTAACTTTTTGCATACATACTGGTTTGAGTCAGTACATAGCAG TGGAAGCTGCAGAGGGCCGAAACAAAAATGAAGTTTTCTACCAATGTCCAGA CCAAATGGCTCGAAATCCAGCTGCTATTGACATGTTTATTATAGGTGCTACTT TTACTGACTGGTTTACCTCTTATGTCAAAAATGTTGTATCAGGTGGCTTCCCC ATCATCAGAGACCAAATTTTCAGATATGTTCACGATCCAGAATGTGTAGCAAC AACTGGGGATATTACTGTGTCAGTTTCCACATCGTTTCTGCCAGAACTTAGCT CTGTACATCCACCCCACTATTTCTTCACATACCGAATCAGGATTGAAATGTCA AAAGATGCACTTCCTGAGAAGGCCTGTCAGTTGGACAGTCGCTATTGGAGAA TAACAAATGCTAAGGGTGACGTGGAAGAAGTTCAAGGACCTGGAGTAGTTG GTGAATTTCCAATCATCAGCCCAGGTCGGGTATATGAATACACAAGCTGTAC CACATTCTCTACAACATCAGGATACATGGAAGGATATTATACCTTCCATTTTC TTTACTTTAAAGACAAGATCTTTAATGTTGCCATTCCCCGATTCCATATGGCAT GTCCAACATTCAGGGTGTCTATAGCCCGATTGGTAAGTTAA	219	AAMETETAPLTLESLPTDPL LLILSFLDYRDLINCCYVSR RLSQLSSHDPLWRRHCKK YWLISEEEKTQKNQCWKSL FIDTYSDVGRYIDHYAAIKK AWDDLKKYLEPRCPRMVL SLKEGAREEDLDAVEAQIG CKLPDDYRCSYRIHNGQKL VVPGLLGSMALSNHYRSED LLDVDTAAGGFQQRQGLK YCLPLTFCIHTGLSQYIAVE AAEGRNKNEVFYQCPDQM ARNPAAIDMFIIGATFTDWF TSYVKNVVSGGFPIIRDQIF RYVHDPECVATTGDITVSV STSFLPELSSVHPPHYFFTY RIRIEMSKDALPEKACQLDS RYWRITNAKGDVEEVQGP GVVGEFPIISPGRVYEYTSC TTFSTTSGYMEGYYTFHFL YFKDKIFNVAIPRFHMACPT FRVSIARLVS*
Shigella ospB	1	prey5237	19	GCAGCAACAGCAGCAGCCGCCACCACCGCCAATACCTGCAAATGGGCAACA GGCCAGCAGCCAAAATGAAGGCTTGACTATTGACCTGAAGAATTTTAGAAAA CCAGGAGAGAAGACCTTCACCCAACGAAGCCGTCTTTTTGTGGGAAATCTTC CTCCCGACATCACTGAGGAAGAAATGAGGAAACTATTTGAGAAATATGGAAA GGCAGGCGAAGTCTTCATTCATAAGGATAAAGGATTTGGCTTTATCCGCTTG GAAACCCGAACCCTAGCGGAGATTGCCAAAGTGGAGCTGGACAATATGCCA CTCCGTGGAAAGCAGCTGCGTGTGCGCTTTGCCTGCCATAGTGCATCCCTTA CAGTTCGAAACCTTCCTCAGTATGTGTCCAACGAACTGCTGGAAGAAGCCTT TTCTGTGTTTGGCCAGGTAGAGAGGGCTGTAGTCATTGTGGATGATCGAGGA AGGCCCTCAGGAAAAGGCATTGTTGAGTTCTCAGGGAAGCCAGCTGCTCGG AAAGCTCTGGACAGATGCAGTGAAGGCTCCTTCCTGCTAACCACATTTCCTC GTCCTGTGACTGTGGAGCCCATGGACCAGTTAGATGATGAAGAGGGACTTC	220	QQQQQPPPPPIPANGQQA SSQNEGLTIDLKNFRKPGE KTFTQRSRLFVGNLPPDITE EEMRKLFEKYGKAGEVFIH KDKGFGFIRLETRTLAEIAK VELDNMPLRGKQLRVRFA CHSASLTVRNLPQYVSNEL LEEAFSVFGQVERAVVIVD DRGRPSGKGIVEFSGKPAA RKALDRCSEGSFLLTTFPR PVTVEPMDQLDDEEGLPEK LVIKNQQFHKEREQPPRFA

				CAGAGAAGCTGGTTATAAAAAACCAGCAATTTCACAAGGAACGAGAGCAGCC ACCCAGATTTGCACAGCCTGGCTCCTTTGAGTATGAATATGCCATGCGCTGG AAGGCACTCATTGAGATGGAGAAGCAGCAGCAGGACCAAGTGGACCGCAAC ATCAAGGAGGC		QPGSFEYEYAMRWKALIE MEKQQQDQVDRNIKE
Shigella ospB	1	prey67661	20	TGGGGATTTCTGCATCCGGGTCTTTTCTGAAAAGAAAGCTGACTACCAAGCT GTCGATGATGAAATCGAGGCCAATCTTGAAGAGTTCGACATCAGCGAGGATG ACATTGATGATGGAGTCAGGAGACTGTTTGCCCAGTTGGCAGGAGAGGATG CGGAGATCTCTGCCTTTGAGCTGCAGACCATCCTGAGAAGGGTTCTAGCAAA GCGCCAAGATATCAAGTCAGATGGCTTCAGCATCGAGACATGCAAAATTATG GTTGACATGCTAGATTCGGACGGGAGTGGCAAGCTGGGGCTGAAGGAGTTC TACATTCTCTGGACGAAGATTCAAAAATACCAAAAAATTTACCGAGAAATCGA CGTTGACAGGTCTGGTACCATGAATTCCTATGAAATGCGGAAGGCATTAGAA GAAGCAGGTTTCAAGATGCCCTGTCAACTCCACCAAGTCATCGTTGCTCGGT TTGCAGATGACCAGCTCATCATCGATTTTGATAATTTTGTTCGGTGTTTGGTT CGGCTGGAAACGCTATTCAAGATATTTAAGCAGCTGGATCCCGAGAATACTG GAACAATAGAGCTCGACCTTATCTCTTGGCTCTGTTTCTCAGTACTTTGA	221	GDFCIRVFSEKKADYQAVD DEIEANLEEFDISEDDIDDG VRRLFAQLAGEDAEISAFEL QTILRRVLAKRQDIKSDGFS IETCKIMVDMLDSDGSGKL GLKEFYILWTKIQKYQKIYR EIDVDRSGTMNSYEMRKAL EEAGFKMPCQLHQVIVARF ADDQLIIDFDNFVRCLVRLE TLFKIFKQLDPENTGTIELDL ISWLCFSVL*
Shigella ospB	1	prey34730	21	ATGGTGAATCCGGGCAGCAGCTCGCAGCCGCCCCCGGTGACGGCCGGCTC CCTCTCCTGGAAGCGGTGCGCAGGCTGCGGGGGCAAGATTGCGGACCGCT TTCTGCTCTATGCCATGGACAGCTATTGGCACAGCCGGTGCCTCAAGTGCTC CTGCTGCCAGGCGCAGCTGGGCGACATCGGCACGTCCTGTTACACCAAAAG TGGCATGATCCTTTGCAGAAATGACTACATTAGGTTATTTGGAAATAGCGGTG CTTGCAGCGCTTGCGGACAGTCGATTCCTGCGAGTGAACTCGTCATGAGGG CGCAAGGCAATGTGTATCATCTTAAGTGTTTTACATGCTCTACCTGCCGGAAT CGCCTGGTCCCGGGAGATCGGTTTCACTACATCAATGGCAGTTTATTTTGTG AACATGATAGACCTACAGCTCTCATCAATGGCCATTTGAATTCACTTCAGAGC AATCCACT	222	MVNPGSSSQPPPVTAGSL SWKRCAGCGGKIADRFLLY AMDSYWHSRCLKCSCCQA QLGDIGTSCYTKSGMILCR NDYIRLFGNSGACSACGQS IPASELVMRAQGNVYHLKC FTCSTCRNRLVPGDRFHYI NGSLFCEHDRPTALINGHL NSLQSNP
Shigella ospB	1	prey33141	22	CCTGAGCCTGCCGGGGATCCTGCACTTTATCCAGCACGAGTGGGCGCGCTT CGAAGCCGAGAAAGCCCGCTGGGAGGCCGAGCGCGCCGAGTTACAGGCTC AGGTGGCCTTCCTTCAGGGAGAGAGGAAAGGGCAGGAGAATCTAAAGACGG ACCTGGTGCGGCGGATCAAGATGCTAGAGTATGCGCTGAAGCAGGAAAGGG CCAAATATCATAAACTGAAGTTTGGGACAGACCTGAACCAGGGGGAGAAGAA AGCAGATGTGTCAGAACAAGTCTCCAATGGCCCCGTGGAATCGGTCACCCT GGAGAACAGCCCGTTGGTGTGGAAGGAGGGGCGGCAGCTTCTCCGACAGT ACCTGGAAG	223	LSLPGILHFIQHEWARFEAE KARWEAERAELQAQVAFL QGERKGQENLKTDLVRRIK MLEYALKQERAKYHKLKFG TDLNQGEKKADVSEQVSN GPVESVTLENSPLVWKEG RQLLRQYLE
Shigella ospB	1	prey67575	23	ATGGCAGCCTCCTTACGGCTCCTCGGAGCTGCCTCCGGTCTCCGGTACTGG AGCCGGCGGCTGCGGCCGGCAGCCGGCAGCTTTGCAGCGGTGTGTTCTAG GTCAGTGGCTTCAAAGACTCCAGTTGGATTCATTGGACTGGGCAACATGGG GAATCCAATGGCAAAAAATCTCATGAAACATGGCTATCCACTTATTATTTATG ATGTGTTCCCTGATGCCTGCAAAGAGTTTCAAGATGCAGGTGAACAGGTAGT	224	MAASLRLLGAASGLRYWS RRLRPAAGSFAAVCSRSVA SKTPVGFIGLGNMGNPMAK NLMKHGYPLIIYDVFPDACK EFQDAGEQVVSSPADVAE

				ATCTTCCCCAGCAGATGTTGCTGAAAAAGCTGACAGAATTATTACAATGCTGC CCACCAGTATCAATGCAATAGAAGCTTATTCCGGAGCAAATGGGATTCTAAA AAAAGTGAAGAAGGGCTCATTATTAATAGATTCCAGCACTATTGATCCTGCAG TTTCAAAAGAATTGGCCAAAGAAGTTGAGAAAATGGGAGCAGTTTTCATGGA TGCCCCTGTTTCTGGTGGTGTAGGAGCTGCACGATCTGGGAACCTCACGTTT ATGGTGGGAGGAGTTGAAGATGAATTTGCTGCTGCCCAAGAGTTGCTGGGG TGCATGGGCTCCAACGTGGTGTACTGTGGAGCTGTTGGGACTGGGCAGGCG GCAAAGATCTGCAACAACATGCTGTTAGCTATTAGTATGATTGGAACTGCTGA AGCTATGAATCTTGGAATCAGGTTAGGGCTTGACCCAAAACTACTGGCTAAA ATCCTAAATATGAGCTCAGGACGGTGTTGGTCAAGTGACACTTATAATCCTGT ACCTGGAGTGATGGATGGCGTTCCCTCGGCTAATAACTATCAGGGTGGATTT GGAACAACACTCATGGCTAAGGATCTGGGATTGGCACAAGACTCTGCTACCA GCACAAAGAGCCCAATCCTTCTTGGCAGTCTGGCCCATCAGATCTACAGGAT GATGTGTGCAAAGGGCTACTCAAAGAAAGACTTCTCATCCGTGTTCCAGTTC CTACGAGAGGAGGAGACCTTCTGA		KADRIITMLPTSINAIEAYSG ANGILKKVKKGSLLIDSSTID PAVSKELAKEVEKMGAVFM DAPVSGGVGAARSGNLTF MVGGVEDEFAAAQELLGC MGSNVVYCGAVGTGQAAK ICNNMLLAISMIGTAEAMNL GIRLGLDPKLLAKILNMSSG RCWSSDTYNPVPGVMDGV PSANNYQGGFGTTLMAKD LGLAQDSATSTKSPILLGSL AHQIYRMMCAKGYSKKDF SSVFQFLREEETF*
Shigella ospB	1	prey67608	24	CGCAGAGGAAGAGGAGGCCGAGGTGAGACAGCCCAAGGGACCAGACCCAG ACAGCCTTAGTTCACAGTTTATGGCGTATATTGAACAGCGGCGAATCTCTCAT GAGGGTTCACCAGTAAAGCCAGTAGCCATTAGGGAGTTTCAAAAAACAGAAG ATATGAGAAGATACTTACATCAAAACAGGGTTCCAGCTGAGCCATCTTCCCT CCTGTCACTATCAGCAAGTCACAATCAGCTGTCACACACAGACCTGGAACTT CATCAGAGAAGGGAGCAGTTAGTAGAGCGCACTCGGAGAGAGGCTCAGCTT GCTGCCCTGCAGTATGAGGAGGAGAAAATAAGGACCAAGCAGATCCAGAGA GATGCTGTCCTGGACTTTGTCAAACAAAAAGCATCACAAAGTCCACAAAAAC AGCACCCGCTCCTAGATGGCGTAGATGGTGAGTGCCCCTTCCCATCCAGAA GGTCTCAGCACACTGATGATAGTGCCTTGTGCATGTCGCTGTCAGGGTTGAA TCAAGTGGGCTGTGCTGCTACCCTGCCTCATTCTTCTGCCTTCACGCCTCTT AAGAGTGATGACAGACCTAATGCTCTATTAAGTTCACCTGCAACAGAAACAG TTCATCATTCCCCTGCATATTCTTTTCCTGCTGCTATCCAGAGAAATCAGCCT CAGCGCCCT	225	AEEEEAEVRQPKGPDPDSL SSQFMAYIEQRRISHEGSP VKPVAIREFQKTEDMRRYL HQNRVPAEPSSLLSLSASH NQLSHTDLELHQRREQLVE RTRREAQLAALQYEEEKIR TKQIQRDAVLDFVKQKASQ SPQKQHPLLDGVDGECPF PSRRSQHTDDSALCMSLS GLNQVGCAATLPHSSAFTP LKSDDRPNALLSSPATETV HHSPAYSFPAAIQRNQPQR P
Shigella ospB	1	prey67637	25	ATGATACTACAGGAGTTACCAGATTTGGAGGAGCTCTTCCTGTGCCTTAATG ACTATGAAACAGTGTCTTGTCCTTCTATTTGCTGTCATTCTCTTAAGCTACTAC ATATAACAGACAATAACCTCCAAGACTGGACTGAAATACGAAAGTTAGGAGTT ATGTTTCCTTCACTGGATACCCTCGTCCTGGCCAACAATCATTTGAATGCTAT TGAGGAGCCTGATGATTCATTGGCCAGGTTGTTTCCTAATCTTCGATCCATCA GCCTCCACAAGTCAGGTTTGCAGTCCTGGGAAGACATTGATAAACTAAATTC ATTTCCCAAACTGGAAGAAGTGAGATTGTTAGGAATTCCTCTTCTGCAGCCAT ATACCACCGAGGAGCGAAGGAAATTGGTAATAGCCAGATTGCCATCAGTTTC CAAACTTAATGGCAGCGTTGTTACTGATGGTGAACGAGAAGATTCTGAGAGA TTTTTTATTCGTTACTATGTGGATGTTCCACAGGAAGAAGTGCCATTCAGGTA	226	MILQELPDLEELFLCLNDYE TVSCPSICCHSLKLLHITDN NLQDWTEIRKLGVMFPSLD TLVLANNHLNAIEEPDDSLA RLFPNLRSISLHKSGLQSW EDIDKLNSFPKLEEVRLLGI PLLQPYTTEERRKLVIARLP SVSKLNGSVVTDGEREDSE RFFIRYYVDVPQEEVPFRY HELITKYGKLEPLAEVDLRP

				TCATGAACTGATCACTAAATATGGGAAGTTGGAGCCTTTGGCAGAAGTGGAC CTAAGACCCCAGAGCAGTGCAAAAGTAGAAGTCCACTTTAACGATCAGGTGG AAGAAATGAGCATTCGTCTGGACCAAACAGTGGCAGAACTAAAGAAACAGTT AAAAACTCTAGTACAATTACC		QSSAKVEVHFNDQVEEMSI RLDQTVAELKKQLKTLVQL
Shigella ospB	1	prey12713	26	AGTGGATGAGGTGCTGCAGATCCCCCCATCCCTGCTGACATGCGGCGGCTG CCAGCAGAACATCGGGGACCGCTACTTCCTGAAGGCCATCGACCAGTACTG GCACGAGGACTGCCTGAGCTGCGACCTCTGTGGCTGCCGGCTGGGTGAGG TGGGGCGGCGCCTCTACTACAAACTGGGCCGGAAGCTCTGCCGGAGAGAC TATCTCAGGCTTTTTGGGCAAGACGGTCTCTGCGCATCCTGTGACAAGCGGA TTCGTGCCTATGAGATGACAATGCGGGTGAAAGACAAAGTGTATCACCTGGA ATGTTTCAAGTGCGCCGCCTGTCAGAAGCATTTCTGTGTAGGTGACAGATAC CTCCTCATCAACTCTGACATAGTGTGCGAACAGGACATCTACGAGTGGACTA AGATCAATGGGATGATATAG	227	VDEVLQIPPSLLTCGGCQQ NIGDRYFLKAIDQYWHEDC LSCDLCGCRLGEVGRRLYY KLGRKLCRRDYLRLFGQD GLCASCDKRIRAYEMTMRV KDKVYHLECFKCAACQKHF CVGDRYLLINSDIVCEQDIY EWTKINGMI*
Shigella ospB	1	prey67836	27	CCTGAAGACAGCTGGCAAGTCTGAACCTTCCAGCAAGTTGCGAAAGCAACTT AAAAAGCAGCAAGACTCTTTAGATGTCGTGGACTCTTCGGTCTCCTCTTTATG TCTGTCTAACACGGCATCATCTCATGGGACCAGAAAACTATTTCAGATTTATT CCAAATCTCCATTCTACCGAGCTGCCTCAGGTAATGAGGCCCTGGGAATGGA AGGACCATTGGGCCAGACCAAATTCCTGGAAGACAAGCCTCAGTTCATCAGC AGAGGAACCTTCAACCCGGAAAAGGGCAAACAAAAATTAAAGAATGTGAAAA ACTCACCTCAGAAAACCAAAGAGACCCCAGAGGGGACAGTCATGTCTGGCC GCAGAAAAACTGTGGACCCAGACTGCACCTCCAACCAACAGC	228	LKTAGKSEPSSKLRKQLKK QQDSLDVVDSSVSSLCLSN TASSHGTRKLFQIYSKSPFY RAASGNEALGMEGPLGQT KFLEDKPQFISRGTFNPEK GKQKLKNVKNSPQKTKETP EGTVMSGRRKTVDPDCTS NQQ
Shigella ospB	1	prey700	28	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGCCTTTGCCAGATCTACAGACCAGACCGTTCTAGAAGAATTAGCTTCCAT TAAGAATAGACAAAGAATTCAGAAATTGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAAACAACACAACAGTTATACCCAAGTTTACTTGAAAG	229	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAIETTQQLYPSLLE
Shigella ospB	1	prey67844	29	TTCCATACAGGAACCCCATCTGAAGGTCACCAACATCAAAGACCAAAGGTAG ATAAATCCACGAAGTTGAGGAAAAACCAGTGCAAAAAGGCTGAGAATTCCAA AAACCAGAAAGGCTCTTCTCCTCCAAAGGATCAAAACTCCTCGCCAGCAAGG GAACAAAACCAGATGGAGAATGAGTTTGATGAATTGACAGAAGTAGGCTTCA GAAGGTGGGTAATAACAAGTAAGCTAAAGGAGCATGTTCTAACCCAATGCAA GGAAGTTAAGAACCTTGAAAAAAGGTTATG	230	FHTGTPSEGHQHQRPKVD KSTKLRKNQCKKAENSKN QKGSSPPKDQNSSPAREQ NQMENEFDELTEVGFRRW VITSKLKEHVLTQCKEVKNL EKRL

Shigella ospB	1	prey67853	30	GCCGTGGACGGTGAGGGTGCCGGCCTCACCTCGGAGGCATGGAAGTACCA GGTTACTTCACATCGAGAGGACCGTTTTCCTCTTTCCAGTCGGCTGCGGTTG GCACTGAAGAATCTTGGTGCTGACAGACACAGAGCAGGGTCTCTCGTGGAA CAGGAGTTGTCTGGTCTGTTCAGTTTGATGAGTGGCAGAAAATGAGACGATG GGAAGTGTGTGTGTGGGCCTNTTTTTNGGTGCTNNGGNNGNNN	231	AVDGEGAGLTSEAWKYQV TSHREDRFPLSSRLRLALK NLGADRHRAGSLVEQELS GLFSLMSGRK*DDGKCVC GPXFXCXGX
Shigella ospB	1	prey66272	31	ATGTGGGCCCTGGGTCAAGCAGGTTTTGCCAACCTCACCGAGGGACTGAAA GTGTGGCTGGGGATCATGCTGCCTGTGCTGGGCATCAAGTCTCTGTCTCCC TTTGCCATCACATACCTGGATCGGCTGCTCCTGATGCATCCCAACCTTACCA AGGGCTTCGGCATGATTGGCCCCAAGGACTTCTTCCCACTTCTGGACTTTGC CTATATGCCGAACAACTCCCTGACACCCAGCCTGCAGGAGCAGCTGTGTCA GCTCTACCCCCGACTGAAAGTGCTGGCATTTGGAGCAAAGCCGGATTCCAC CCTGCATACCTACTTCCCTTCTTTCCTGTCCAGAGCCACCCCTAGCTGTCCC CCTGAGATGAAGAAAGAGCTCCTGAGCAGCCTGACTGAGTGCCTGACGGTG GACCCCCTCAGTGCCAGCGTCTGGAGGCAGCTGTACCCTAAGCACCTGTCA CAGTCCAGCCTTCTGCTGGAGCACTTGCTCAGCTCCTGGGAGCAGATTCCC AAGAAGGTACAGAAGTCTTTGCAAGAAACCATTCAGTCCCTCAAGCTTACCA ACCAGGAGCTGCTGAGGAAGGGTAGCAGTAACAACCAGGATGTCGTCACCT GTGACATGGCCTGCAAGGGCCTGTTGCAGCAGGTTCAGGGTCCTCGGCTGC CCTGGACGCGGCTCCTCCTGTTGCTGCTGGTCTTCGCTGTAGGCTTCCTGT GCCATGACCTCCGGTCACACAGCTCCTTCCAGGCCTCCCTTACTGGCCGGT TGCTTCGATCATCTGGCTTCTTACCTGCTAGCCAACAAGCGTGTGCCAAGCT CTACTCCTACAGTCTGCAAGGCTACAGCTGGCTGGGGGAGACACTGCCGCT CTGGGGCTCCCACCTGCTCACCGTGGTGCGGCCCAGCTTGCAGCTGGCCT GGGCTCACACCAATGCCACAGTCAGCTTCCTTTCTGCCCACTGTGCCTCTCA CCTTGCGTGGTTTGGTGACAGTCTCACCAGTCTCTCTCAGAGGCTACAGATC CAGCTCCCCGATTCCGTGAATCAGCTACTCCGCTATCTGAGAGAGCTGCCC CTGCTTTTCCACCAGAATGTGCTGCTGCCACTGTGGCACCTCTTGCTTGAGG CCCTGGCCTGGGCCCAGGAGCACTGCCATGAGGCATGCAGAGGTGAGGTG ACCTGGGACTGCATGAAGACACAGCTCAGTGAGGCTGTCCACTGGACCTGG CTTTGCCTACAGGACATTACAGTGGCTTTCTTGGACTGGGCACTTGCCCTGA TATCCCAGCAGTAG	232	MWALGQAGFANLTEGLKV WLGIMLPVLGIKSLSPFAITY LDRLLLMHPNLTKGFGMIG PKDFFPLLDFAYMPNNSLT PSLQEQLCQLYPRLKVLAF GAKPDSTLHTYFPSFLSRA TPSCPPEMKKELLSSLTEC LTVDPLSASVWRQLYPKHL SQSSLLLEHLLSSWEQIPKK VQKSLQETIQSLKLTNQELL RKGSSNNQDVVTCDMACK GLLQQVQGPRLPWTRLLLL LLVFAVGFLCHDLRSHSSF QASLTGRLLRSSGFLPASQ QACAKLYSYSLQGYSWLG ETLPLWGSHLLTVVRPSLQ LAWAHTNATVSFLSAHCAS HLAWFGDSLTSLSQRLQIQ LPDSVNQLLRYLRELPLLFH QNVLLPLWHLLLEALAWAQ EHCHEACRGEVTWDCMKT QLSEAVHWTWLCLQDITVA FLDWALALISQQ*
Shigella ospD1	2	prey700	32	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT	233	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH

				ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGC		HGYCATAE
Shigella ospD1	2	prey2492	33	CACCAACCTAAAGAGACAGGCTAACAAGAAGAGTGAGGGCAGCCTGGCCTA TGTGAAAGGCGGTCTCAGTACATTCTTCGAAGCACAGGATGCCCTCTCAGCC ATCCATCAAAAACTAGAAGCAGATGGAACGGAAAAAGTAGAAGGATCCATGA CGCAGAAACTGGAGAATGTTCTGAACAGAGCAAGTAATACTGCAGACACATT GTTTCAAGAAGTATTAGGTCGGAAAGACAAGGCAGATTCCACTAGAAATGCA CTCAATGTGCTTCAGCGATTTAAGTTTCTTTTCAACCTTCCTCTAAATATTGAA AGGAATATTCAAAAGGGTGATTATGATGTGGTTATTAATGATTATGAAAAGGC CAAGTCACTTTTTGGGAAAACGGAGGTGCAAGTTTTCAAGAAATATTATGCTG AAGTAGAAACAAGGATTGAAGCTTTAAGAGAATTACTTCTGGATAAATTGCTT GAGACACCATCAACTTTACATGACCAAAAACGTTACATAAGGTACCTGTCTGA CCTTCATGCGTCTGGTGACCCTGCTTGGCAATGCATTGGAGCCCAACACAAG TGGATCCTTCAGCTCATGCACAGTTGCAAAGAGGGCTACGTGAAAGATCTGA AAGGTAACCCAGGCCTGCACAGTCCCATGTTGGATCTTGATAATGATACACG TCCCTCAGTGTTGGGCCATCTCAGTCAGACAGCGTCCCTGAAGAGGGGCAG CAGCTTTCAGTCTGGTCGAGACGACACGTGGAGATACAAAACTCCCCACAG GGTGGCCTTTGTTGAAAAATTGACAAAACTCGTCTTGAGCCAGCTGCCTAAC TTCTGGAAACTCTGGATCTCCTACGTTAATGGAAGCCTCTTCAGTGAGACTG CTGAGAAGTCAGGCCAGATTGAAAGATCAAAGAATGTAAGGCAAAGACAAAA TGATTTTAAGAAAATGATTCAGGAAGTAATGCACTCCCTGGTGAAGCTTACCC GCGGAGCCCTGCATCCCCTCAGCATCCGGGATGGGGAAGCCAAGCAGTAC GGAGGCTGGGAGGTGAAGTGCGAGCTCTCCGGACAGTGGCTCGCTCACGC CATCCAGACTGTAAGACTTACTCATGAATCGTTGACTGCCCTTGAAATTCCTA ATGACCTGTTACAGACTATCCAGGATCTCATCTTGGATCTCCGAGTACGTTG CGTAATGGCCACGTTGCAGCACACGGCGGAAGAAATAAAGAGATTAGCTGA AAAAGAAGACTGGATTGTTGACAATGAAGGACTGACTTCTCTACCATGTCAG TTTGAACAGTGCATCGTGTGTTCTCTGCAGTCACTGAAGGGGGTTCTGGAGT GCAAGCCGGGAGAGGCTAGTGTCTTCCAACAACCTAAAACACAGGAGGAGG TTTGCCAGCTAAGCATCAATATAATGCAGGTTTTTATATACTGTCTGGAACAG TTGAGCACCAAGCCTGATGCAGATATAGATACTACACATCTCTCTGTTGATGT TTCTTCCCCTGACTTGTTTGGAAGTATCCATGAAGACTTCAGCTTGACCTCAG AACAGCGCC	234	TNLKRQANKKSEGSLAYVK GGLSTFFEAQDALSAIHQK LEADGTEKVEGSMTQKLEN VLNRASNTADTLFQEVLGR KDKADSTRNALNVLQRFKF LFNLPLNIERNIQKGDYDVV INDYEKAKSLFGKTEVQVF KKYYAEVETRIEALRELLLD KLLETPSTLHDQKRYIRYLS DLHASGDPAWQCIGAQHK WILQLMHSCKEGYVKDLKG NPGLHSPMLDLDNDTRPSV LGHLSQTASLKRGSSFQSG RDDTWRYKTPHRVAFVEK LTKLVLSQLPNFWKLWISY VNGSLFSETAEKSGQIERS KNVRQRQNDFKKMIQEVM HSLVKLTRGALHPLSIRDGE AKQYGGWEVKCELSGQWL AHAIQTVRLTHESLTALEIP NDLLQTIQDLILDLRVRCVM ATLQHTAEEIKRLAEKEDWI VDNEGLTSLPCQFEQCIVC SLQSLKGVLECKPGEASVF QQPKTQEEVCQLSINIMQV FIYCLEQLSTKPDADIDTTH LSVDVSSPDLFGSIHEDFSL TSEQR
Shigella ospD1	2	prey67651	34	CAGTATAAGAAGGCCTTAGAGAATGAAACAAATGAGGAGAAATCTGGCACAC CAGGAGCTGATAAAGCAGAAAAAAGATATAAGTATACAGTTAAGCTCANCCC AGTCTCGTTGTACTCTTCTAGAGAAGCAACTAGAATATACAAAGAGAATGGTT CTCAACGTAGGAGCGAGAAAAGAACATGATCCTAGAACAACAGGCCCAGCTT CAGAGGGAAAAAGAACAAGATCAGATGAAGCTGTATGCAAAACTTGAAAAGC TTGATGTCTTANAAAAAGAGTGTTTCAGACTTACAACAACTCAGN	235	QYKKALENETNEEKSGTPG ADKAEKRYKYTVKLXPVSL YSSREATRIYKENGSQRRS EKRT*S*NNRPSFRGKKNKI R*SCMQNLKSLMSXKKSVS DLQQLX

Shigella ospD1	2	prey67653	35	CCCTGAAATCTGCAAAATGGCTGATAATTTGGATGAATTTATTGAAGAGCAAAAAGCCAGATTGGCCGAAGACAAAGCAGAGTTGGAAAGTGATCCACCTTACATGGAAATGAAGGGAAAGTTGTCAGCGAAGCTTTCTGAAAACAGTAAGATACTGATCTCTATGGCTAAGGAAAACATACCACCAAATAGTCAACAGACCAGGGGTTCCTTAGGAATTGATTATGGATTAAGTTTACCACTTGGAGAAGACTATGAACGGAAGAAACATAAATTAAAAGAAGAATTGCG	236	PEICKMADNLDEFIEEQKARLAEDKAELESDPPYMEMKGKLSAKLSENSKILISMAKENIPPNSQQTRGSLGIDYGLSLPLGEDYERKKHKLKEEL
Shigella ospD1	2	prey67667	36	CGACCAGGGCACACCCCAGTACATGGAGAACATGGAGCAGGTGTTTGAGCAGTGCCAGCAGTTCGAGGAGAAACGCCTTCGCTTCTTCCGGGAGGTTCTGCTGGAGGTTCAGAAGCACCTAAACCTGTCCAATGTGGCTGGTTACAAAGCCATTTACCATGACCTGGAGCAGAGCATCAGAGCAGCTGATGCAGTGGAGGACCTGAGGTGGTTCCGAGCCAATCACGGGCCAGGCATGGCCATGAACTGGCCGCAGTTTGAGGAGTGGTCCGCAGACCTGATTCGAACCCTCAGCCGGAGAGAGAAGAAGAAGGCCACTGACGGCTTCACCCTGACGGGCATCAACCAGACAGGCGACCAGTTTTTGCCGAGTAAGCCCAGCAGCAC	237	DQGTPQYMENMEQVFEQCQQFEEKRLRFFREVLLEVQKHLNLSNVAGYKAIYHDLEQSIRAADAVEDLRWFRANHGPGMAMNWPQFEEWSADLIRTLSRREKKKATDGFTLTGINQTGDQFLPSKPSS
Shigella ospD1	2	prey67657	37	CCCGCCTGCCATGGACTGGATCTTCCAGTGCATCTCCTACCATGCCCCCGAGGCTCTGCTGACCGAGATGATGGAAAGGTGTAAGAAACTAGGAAACAATGCCTTGCTGTTGAATTCTGTGATGTCTGCCTTCCGGGCTGAGTTCATCGCCACAAGGTCTATGGATTTCATTGGCATGATTAAAGAGTGTGATGAATCTGGTTTCCCCAAGCATCTTCTTTTTCGATCACTGGGATTAAACTTGGCCTTGGCTGATCCTCCTGAGAGTGACCGACTTCAGATTCTCAACGAAGCTTGGAAAGTCATCACTAAGCTGAAGAACCCACAGGACTACATTAATTGTGCCGAAGTGTGGGTGGAATACACCTGCAAGCATTTCACGAAACGAGAGGTGAATACCGTTTTGGCAGATGTCATCAAGCACATGACTCCAGATCGTGCATTTGAAGATTCCTACCCCCAGCTTCAGTTAATAATTAAGAAAGTTATTGCCCACTTCCATGACTTCTCAGTTCTTTTCTCAGTGGAAAAATTTCTGCCGTTTCTGGACATGTTCCAAAAAGAGAGTGTGCGGGTGGAGGTTTGCAAATGCATCATGGACGCCTTTATCAAGCATCAACAAGAGCCCACCAAGGACC	238	PPAMDWIFQCISYHAPEALLTEMMERCKKLGNNALLLNSVMSAFRAEFIATRSMDFIGMIKECDESGFPKHLLFRSLGLNLALADPPESDRLQILNEAWKVITKLKNPQDYINCAEVWVEYTCKHFTKREVNTVLADVIKHMTPDRAFEDSYPQLQLIIKKVIAHFHDFSVLFSVEKFLPFLDMFQKESVRVEVCKCIMDAFIKHQQEPTKD
Shigella ospD1	2	prey67501	38	CTTCCGCCTGGAACAGCTGGAATGCCTTGATGATGCAGAAAAAAAATTAAACTTGGCCCAGAAATGCTTTAAAAATTGTTACGGAGAAAATCATCAGAGACTGGTCCACATAAAAGGAAATTGTGGGAAAGAGAAGGTACTGTTTCTAAGACTCTACTTACTTCAAGGGATCCGAAACTATCACAGTGGAAATGATGTAGAGGCTTATGAGTATCTTAACAGGCACGTCAGCTCTTTAAAGAGCTATATATTGATCCATCAAAAGTGGACAATTTGTTGCAGTTGGGGTTTACTGCCCAGGAAGCACCGGCTTGGCCTGAGGGCGTGTGATGGGAACGTGGATCATGCGGCCACTCATATTACCAACCGCAGAGAGGAACTGGCCCAAATAAGGAAGGAGGAAAAAGAGAAGAAAAGACGCCGCCTCGAGAACATCAGGTTTCTGAAAGGGATGGGCTACTCCACGCACG	239	FRLEQLECLDDAEKKLNLAQKCFKNCYGENHQRLVHIKGNCGKEKVLFLRLYLLQGIRNYHSGNDVEAYEYLNRHVSSLKSYILIHQKWTICCSWGLLPRKHRLGLRACDGNVDHAATHITNRREELAQIRKEEKEKKRRRLENIRFLKGMGYSTH
Shigella ospD1	2	prey67678	39	GAACAAGCTGAGGGTGTTGGACCCAGAGGTTACCCAGCAGACCATAGAGCTGAAGGAAGAGTGCAAAGACTTTGTGGACAAAATTGGCCAGTTTCAGAAAATA	240	NKLRVLDPEVTQQTIELKEECKDFVDKIGQFQKIVGGLIE

				GTTGGTGGTTTAATTGAGCTTGTTGATCAACTTGCAAAAGAAGCAGAAAATGA AAAGATGAAGGCCATCGGTGCTCGGAACTTGCTCAAATCTATAGCAAAGCAG AGAGAAGCTCAACAGCAGCAACTTCAAGCCCTAATAGCAGAAAAGAAAATGC AGCTAGAAAGGTATCGGGTTGAATATGAAGCTTTGTGTAAAGTAGAAGCAGA ACAAAATGAATTTATTGACCAATTTATTTTTCAGAAATGA		LVDQLAKEAENEKMKAIGA RNLLKSIAKQREAQQQQLQ ALIAEKKMQLERYRVEYEA LCKVEAEQNEFIDQFIFQK*
Shigella ospD1	2	prey67578	40	ATGGCGGTGGAGACTCTGTCCCCGGACTGGGAGTTTGACCGCGTTGACGAC GGCTCGCAGAAAATTCATGCCGAAGTCCAACTTAAGAATTATGGGAAATTTCT TGAGGAGTATACCTCTCAACTGAGAAGAATTGAGGACGCTCTGGATGACTCA ATTGGAGATGTTTGGGATTTCAATCTTGATCCTATAGCATTAAAGCTTTTGCC TTATGAACAGTCCTCTCTTTTGGAACTCATAAAGACTGAAAACAAGGTCTTAA ACAAAGTCATCACTGTTTATGCTGCACTTTGTTGTGAAATCAAGAAATTAAAAT ATGAGGCTGAAACTAAATTTTACAATGGTCTCTTGTTTTATGGAGAAGGAGCT ACAGATGCCAGCATGGTGGAAGGTGATTGCCAAATTCAAATGGGGAGATTTA TTTCATTCTTACAGGAACTGTCTTGCTTTGTTACGAGGTGCTATGAAGTGGTG ATGAACGTAGTCCACCAGTTGGCTGCCCTCTATATCAGTAACAAGATTGCAC CCAAAATTATAGAGACAACTGGAGTTCATTTTCAGACTATGTATGAGCACTTG GGAGAACTGCTAACAGTTTTGCTCACCCTGGATGAAATTATTGATAATCATAT CACACTGAAAGACCACTGGACTATGTACAAAAGGTTACTGAAATCTGTCCAT CACAATCCTTCAAAATTTGGAATTCAGGAAGAAAAATTAAAGCCATTTGAAAA GTTCTTGCTGAAGCTAGAAGGGCAATTACTGGATGGAATGATATTCCAGGCC TGTATAGAACAACAATTTGATTCTCTCAATGGAGGAGTATCTGTGTCAAAAAA TAGTACTTTTGCTGAGGAATTTGCACATAGTATTCGGTCAATTTTTGCAAATG TAGAAGCCAAACTTGGAGAACCTTCTGAAATTGACCAGAGAGACAAGTATGT TGGAATTTGTGGACTCTTTGTATTGCACTTTCAGATTTTTCGAACTATTGATAA AAAGTTTTATAAGTCTTTATTGGAC	241	MAVETLSPDWEFDRVDDG SQKIHAEVQLKNYGKFLEE YTSQLRRIEDALDDSIGDV WDFNLDPIALKLLPYEQSSL LELIKTENKVLNKVITVYAAL CCEIKKLKYEAETKFYNGLL FYGEGATDASMVEGDCQI QMGRFISFLQELSCFVTRC YEVVMNVVHQLAALYISNKI APKIIETTGVHFQTMYEHLG ELLTVLLTLDEIIDNHITLKD HWTMYKRLLKSVHHNPSK FGIQEEKLKPFEKFLLKLEG QLLDGMIFQACIEQQFDSL NGGVSVSKNSTFAEEFAHS IRSIFANVEAKLGEPSEIDQ RDKYVGICGLFVLHFQIFRT IDKKFYKSLLD
Shigella ospD1	2	prey67580	41	GCACTCCCCGCCGCTCCGACTCCGCCATCTCTGTCCGCTCCCTGCACTCAG AGTCCAGCATGTCTCTGCGCTCCACATTCTCACTGCCCGAGGAGGAGGAGG AGCCGGAGCCACTGGTGTTTGCGGAGCAGCCCTCGGTGAAGCTGTGCTGTC AGCTCTGCTGCAGCGTCTTCAAAGACCCCGTGATCACCACGTGTGGGCACA CGTTCTGTAGGAGATGCGCCTTGAAGTCAGAGAAGTGTCCCGTGGACAACG TCAAACTGACCGTGGTGGTGAACAACATCGCGGTGGCCGAGCAGATCGGGG AGCTCTTCATCCACTGCCGGCACGGCTGCCGGGTAGCGGGCAGCGGGAAG CCCCCCATCTTTGAGGTGGACCCCCGAGGGTGCCCCTTCACCATCAAGCTC AGCGCCCGGAAGGACCACGAGGGCAGCTGTGACTACAGGCCTGTGCGGTG TCCCAACAACCCCAGCTGCCCCCCGCTGCTCAGGATGAACCTGGAGGCCCA CCTCAAGGAGTGCGAGCACATCAAATGCCCCCACTCCAAGTACGGGTGCAC GTTCATCGGGAACCAGGACACTTACGAGACCCACCTGGAGACTTGCCGCTT CGAGGGCCTGAAGGAGTTTCTGCAGCAGACGGATGACCGCTTCCACGAGAT GCACGTGGCTCTGGCCCAGAAGGACCAGGAGATCGCCTTCCTGCGCTCCAT	242	TPRRSDSAISVRSLHSESS MSLRSTFSLPEEEEEPEPL VFAEQPSVKLCCQLCCSVF KDPVITTCGHTFCRRCALK SEKCPVDNVKLTVVVNNIA VAEQIGELFIHCRHGCRVA GSGKPPIFEVDPRGCPFTIK LSARKDHEGSCDYRPVRC PNNPSCPPLLRMNLEAHLK ECEHIKCPHSKYGCTFIGN QDTYETHLETCRFEGLKEF LQQTDDRFHEMHVALAQK DQEIAFLRSMLGKLSEKID

				GCTGGGAAAGCTCTCGGAGAAGATCGACC		
Shigella ospD1	2	prey3160	42	CAGAAAACTACATGAACTTACGGTTATGCAAGATAGACGAGAACAAGCAAGA CAAGACTTGAAGGGTTTGGAAGAGACAGTGGCAAAAGAACTTCAGACTTTAC ACAACCTGCGCAAACTCTTTGTTCAGGACCTG	243	RKLHELTVMQDRREQARQ DLKGLEETVAKELQTLHNL RKLFVQDL
Shigella ospD1	2	prey50427	43	ATGGAGGAGTATGAGAAGTTCTGTGAAAAAAGTCTTGCCAGAATACAAGAAG CATCACTATCCACAGAGAGCTTTCTCCCTGCTCAGTCTGAAAGTATCTCACTT ATTCGCTTTCATGGAGTGGCTATCCTTTCTCCACTGCTTAACATTGAGAAAAG AAAGGAAATGCAACAAGAAAAGCAGAAAGCACTTGATGTAGAAGCAAGAAAG CAGGTTAACAGGAAGAAAGCTTTACTGACTCGTGTCCAGGAGATTCTTGACA ATGTTCAGGTTAGAAAAGCACCTAATGCCAGTGATTTTGATCAGTGGGAGAT GGAAACAGTTTACTCTAATTCAGAAGTCAGAAACTTGAATGTTCCTGCTACAT TTCCAAATAGCTTTCCAAGCCATACGGAACACTCTACTGCAGCAAAGCTTGAT AAGATAGCTGGGATTTTGCCATTGGATAATGAGGACCAATGTAAAACTGATG GAATAGACTTAGCTAGAGATTCAGAAGGATTTAATTCTCCGAAGCAATGTGAT AGTTCCAATATTAGTCATGTAGAAAATGAAGCTTTTCCAAAGACCTCTTCAGC AACCCCACAAGAAACTCTTATTTCTGATGGTCCCTTCTCAGTAAATGAACAAC AGGATCTACCACTTTTGGCAGAAGTCATCCCAGATCCCTATGTAATGAGTCTT CAGAATCTGATGAAAAAGTCAAAGGAATATATAGAAAGAGAACAATCTAGAC GCAGTCTGAGAGGTAGTATGAACAGAATTGTTAATGAGAGTCATTTAGACAA AGAACATGATGCTGTTGAAGTGGCTGACTGTGTAAAAGAGAAAGGCCAGTTG ACAGGCAAACACTGTGTCTCAGTTATTCCTGACAAACCAAGCCTTAATAAATC AAATGTTCTTCTCCAAGGTGCTTCCACTCAAGCAAGCAGCATGAGTATGCCA GTTTTAGCTAGCTTTTCGAAAGTGGACATACCTATACGAACTGGCCATCCCA CTGTTCTAGAGTCTAATTCTGATTTTAAAGTTATTCCCACTATTGTTACCGAAA ATAATGTTATCAAAAGTCTTACAGGTTCATATGCCAAATTACCTAGTCCAGAG CCAAGTATGAGTCCTAAAATGCACCGAAGACGT	244	MEEYEKFCEKSLARIQEAS LSTESFLPAQSESISLIRFH GVAILSPLLNIEKRKEMQQE KQKALDVEARKQVNRKKAL LTRVQEILDNVQVRKAPNA SDFDQWEMETVYSNSEVR NLNVPATFPNSFPSHTEHS TAAKLDKIAGILPLDNEDQC KTDGIDLARDSEGFNSPKQ CDSSNISHVENEAFPKTSS ATPQETLISDGPFSVNEQQ DLPLLAEVIPDPYVMSLQNL MKKSKEYIEREQSRRSLRG SMNRIVNESHLDKEHDAVE VADCVKEKGQLTGKHCVS VIPDKPSLNKSNVLLQGAST QASSMSMPVLASFSKVDIPI RTGHPTVLESNSDFKVIPTI VTENNVIKSLTGSYAKLPSP EPSMSPKMHRRR
Shigella ospD1	2	prey63765	44	GGACAGCCCAACCTCTGGCAGACCAGGGGTTACCAGCCTCACAACTGCAGC TGCCTTCAAGCCTGTAGGATCCACTGGCGTCATCAAGTCACCAAGCTGGCAA CGGCCAAACCAAGGAGTACCTTCCACTGGAAGAATCTCAAACAGCGCTACTT ACTCAGGATCAGTGGCACCAGCCAACTCAGCTTTGGGACAAACCCAGCCAA GTGACCAGGACACTTTAGTGCAAAGAGCTGAGCACATTCCAGCAGGGAAAC GAACTCCGATGTGCGCCCATTGTAACCAGGTCATCAGAGGACCATTCTTAGT GGCACTGGGGAAATCTTGGCACCCAGAAGAATTCAACTGCGCTCACTGCAA AAATACAATGGCCTACATTGGATTTGTAGAGGAGAAAGGAGCCCTGTATTGT GAGCTGTGCTATGAGAAATTCTTTGCCCCTGAATGTGGTCGATGCCAAAGGA AGATCCTTGGAGAAGTCATCAATGCGTTGAAACAAACTTGGCATGTTTCCTGT TTTGTGTGTGTAGCCTGTGGAAAGCCCATTCGGAACAATGTTTTTCACTTGGA GGATGGTGAACCCTACTGTGAGACTGATTATTATGCCCTCTTTGGTACTATAT GCCATGGATGTGAATTTCCCATAGAAGCTGGTGACATGTTCCTGGAAGCTCT	245	DSPTSGRPGVTSLTTAAAF KPVGSTGVIKSPSWQRPN QGVPSTGRISNSATYSGSV APANSALGQTQPSDQDTLV QRAEHIPAGKRTPMCAHC NQVIRGPFLVALGKSWHPE EFNCAHCKNTMAYIGFVEE KGALYCELCYEKFFAPECG RCQRKILGEVINALKQTWH VSCFVCVACGKPIRNNVFH LEDGEPYCETDYYALFGTI CHGCEFPIEAGDMFLEALG YTWHDTCFVCSVCCESLE

				GGGCTACACCTGGCATGACACTTGCTTTGTATGCTCAGTGTGTTGTGAAAGTTTGGAAGGTCAGACCTTTTTCTCCAAGAAGGACAAGCCCCTGTGTAAGAAACATGCTCATTCTGTGAATTTTTGA		GQTFFSKKDKPLCKKHAHSVNF*
Shigella ospD1	2	prey67623	45	ATTTTATAGGAGGCATACACCATACATGGTACAGCCAGAGTACCGAATCTATGAGATGAACAAGAGACTGCAGTCTCGCACAGAGGATAGTGACAACCTCTGGTGGGACGCCTTTGCCACTGAATTTTTTGAAGATGACGCCACATTAACCCTTTCATTTTGTTTGGAAGATGGACCAAAGCGATACACTATCGGCAGGACCCTCATCCCCCGTTACTTTAGCACTGTGTTTGAAGGAGGGGTGACCGACCTGTATTACATTCTCAAACACTCGAAAGAGTCATACCACAACTCATCCATCACGGTGGACTGCGACCAGTGTACCATGGTCACCCAGCACGGGAAGCCCATGTTTACCAAGGTATGTACAGAAGGCAGACTGATCTTGGAGTTCACCTTTGATGATCTCATGAGAATCAAAACATGGCACTTTACCATTAGACAATACCGAGAGTTAGTCCCGAGAAGCATCCTAGCCATGCATGCACAAGATCCTCAGGTCCTGGATCAGCTGTCCAAAAACATCACCAGGATGGGGCTAACAAACTTCACCCTCAACTACCTCAGGTTGTGTGTAATATTGGAGCCAATGCAGGAACTGATGTCGAGACATAAAACTTACAACCTCAGTCCCCGAGACTGCCTGAAGACCTGCTTGTTTCAGAAGTGGCAGAGGATGGTGGCTCCGCCAGCAGAACCCACAAGGCAACCAA	246	FYRRHTPYMVQPEYRIYEMNKRLQSRTEDSDNLWWDAFATEFFEDDATLTLSFCLEDGPKRYTIGRTLIPRYFSTVFEGGVTDLYYILKHSKESYHNSSITVDCDQCTMVTQHGKPMFTKVCTEGRLILEFTFDDLMRIKTWHFTIRQYRELVPRSILAMHAQDPQVLDQLSKNITRMGLTNFTLNYLRLCVILEPMQELMSRHKTYNLSPRDCLKTCLFQKWQRMVAPPAEPTRQP
Shigella ospD1	2	prey7315	46	ATGCTGGATAGGGATGTGGGCCCAACTCCCATGTATCCGCCTACATACCTGGAGCCAGGGATTGGGAGGCACACACCATATGGCAACCAAACTGACTACAGAATATTTGAGCTTAACAAACGGCTTCAGAACTGGACAGAGGAGTGTGACAATCTCTGGTGGGATGCATTCACGACTGAGTTCTTTGAGGATGATGCCATGTTGACCATCACTTTCTGCCTGGAGGATGGACCAAAGAGATATACCATTGGCCGGACCCTGATCCCACGCTACTTCCGCAGCATCTTTGAGGGGGGTGCTACGGAGCTGTACTATGTTCTTAAGCACCCCAAGGAGGCATTCCACAGCAACTTTGTGTCCCTCGACTGTGACCAGGGCAGCATGGTGACCCAGCATGGCAAGCCCATGTTCACCCAGGTGTGTGTGGAGGGCCGGTTGTACCTGGAGTTCATGTTTGACGACATGATGCGGATAAAGACGTGGCACTTCAGCATCCGGCAGCACCGAGAGCTCATCCCCCGCAGCATCCTTGCCATGCATGCCCAAGACCCCCAGATGTTGGATCAGCTCTCCAAAAACATCACTCGGTGTGGGCTGTCCAATTCCACTCTCAACTACCTCCGACTCTGTGTGATACTCGAGCCCATGCAAGAGCTCATGTCACGCCACAAGACCTACAGC	247	MLDRDVGPTPMYPPTYLEPGIGRHTPYGNQTDYRIFELNKRLQNWTEECDNLWWDAFTTEFFEDDAMLTITFCLEDGPKRYTIGRTLIPRYFRSIFEGGATELYYVLKHPKEAFHSNFVSLDCDQGSMVTQHGKPMFTQVCVEGRLYLEFMFDDMMRIKTWHFSIRQHRELIPRSILAMHAQDPQMLDQLSKNITRCGLSNSTLNYLRLCVILEPMQELMSRHKTYS
Shigella ospD1	2	prey67601	47	AGTCACTGCTTCAACCACCTGTGAGAAATTAGAAAAAGCCAGGAATGAGTTACAAACAGTGTATGAAGCATTCGTCCAGCAGCACCAGGCTGAAAAAACAGAACGAGAGAATCGGCTTAAAGAGTTTTACACCAGGGAGTATGAAAAGCTTCGGGACACTTACATTGAAGAAGCAGAGAAGTACAAAATGCAATTGCAAGAGCAGTTTGACAACTTAAATGCTGCGCATGAAACCTCTAAGTTGGAAATTGAAGCTAGCCACTCAGAGAAACTTGAATTGCTAAAGAAGGCCTATGAAGCCTCCCTTTCAGAAATTAAGAAAGGCCATGAAATAGAAAAGAAATCGCTTGAAGATTTACTTTCTGAGAAGCAGGAATCGCTAGAGAAGCAAATCAATGATCTGAAGAGTGAAAATGA	248	VTASTTCEKLEKARNELQTVYEAFVQQHQAEKTERENRLKEFYTREYEKLRDTYIEEAEKYKMQLQEQFDNLNAAHETSKLEIEASHSEKLELLKKAYEASLSEIKKGHEIEKKSLEDLLSEKQESLEKQINDLKSENDALNEKLKSEEQKRRA

				TGCTTTAAATGAAAAATTGAAATCAGAAGAACAAAAAAGAAGAGCAAGAGAAA AAGCAAATTTGAAAAATCCTCAGATCATGTATCTAGAACAGGAGTTAGAAAGC CTGAAAGCTGTGTTAGAGATCAAGAATGAGAAACTGCATCAACAGGACATCA AGTTAATGAAAATGGAGAAACTGGTGGACAACAACACAGCATTGGTTGACAA ATTGAAGCGTTTCCAGCAGGAGAATGAAGAATTGAAAGCTCGGATGGACAAG CACATGGCAATCTCAAGGCAGCTTTCCACGGAGCAGGCTGTTCTGCAAGAG TCGCTGGAGAAGGAGTCGAAAGTCAACAAGCGACTCTCTATGGAAAACGAG GAGCTTCTGTGGAAACTGCACAATGGGGACCTGTGTAGCCCCAAGAGATCC CCCACATCCTCCGCCATCCCTTTGCAGTCACCAAGGAATTCGGGCTCCTTCC CTAGCCCCAGCATTTCACCCAGATGA		REKANLKNPQIMYLEQELE SLKAVLEIKNEKLHQQDIKL MKMEKLVDNNTALVDKLKR FQQENEELKARMDKHMAIS RQLSTEQAVLQESLEKESK VNKRLSMENEELLWKLHN GDLCSPKRSPTSSAIPLQS PRNSGSFPSPSISPR*
Shigella ospD1	2	prey53735	48	CTCGCTTCCTCCTAGCACTGGGACATTTCAAGAAGCTCAGAGCCGGTTGAAT GAAGCTGCTGCTGGGCTGAATCAGGCAGCCACAGAACTGGTGCAGGCCTCT CGGGGAACCCCTCAGGACCTGGCTCGAGCCTCAGGCCGATTTGGACAGGA CTTCAGCACCTTCCTGGAAGCTGGTGTGGAGATGGCAGGCCAGGCTCCGAG CCAGGAGGACCGAGCCCAAGTTGTGTCCAACTTGAAGGGCATCTCCATGTC TTCAAGCAAACTTCTTCTGGCTGCCAAGGCCCTGTCCACGGACCCTGCTGCC CCTAACCTCAAGAGTCAGCTGGCTGCAGCTGCCAGGGCAGTAACTGACAGC ATCAATCAGCTCATCACTATGTGCACCCAGCAGGCACCCGGCCAGAAGGAG TGTGATAACGCCCTGCGGGAATTGGAGACGGTCCGGGAACTCCTGGAGAAC CCAGTCCAGCCCATCAATGACATGTCCTACTTTGGTTGCCTGGACAGTGTAA TGGAGAACTCAAAGGTGCTGGGCGAGGCCATGACTGGCATCTCCCAAAATG CCAAGAACGGAAACCTGCCAGAGTTTGGAGATGCCATTTCCACAGCCTCAAA GGCACTTTGTGGCTTCACCGAGGCAGCTGCACAGGCTGCATATCTGGTTGG TGTCTCTGACCCCAATAGCCAAGCTGGACAGCAAGGGCTAGTGGAGCCCAC ACAGTTTGCCCGTGCAAACCAGGCAATTCAGATGGCCTGCCAGAGTTTGGG AGAGCCTGGCTGTACCCAGGCCCAGGTGCTCTCTGCAGCCACCATTGTGGC TAAACACACCTCTGCACTGTGTAACAGCTGTCGCCTGGCTTCTGCCCGTACC ACCAATCCTACTGCCAAGCGCCAGTTTGTACAGTCAGCCAAGGAGGTGGCC AACAGCACAGCTAATCTTGTCAAGACCATCAAGGCGCTAGATGGGGCCTTCA CAGAGGAGAACCGTGCCCAGTGCCGAGCAGCAACAGCCCCTCTGCTGGAG GCTGTGGACAATCTGAGTGCCTTTGCGTCCAACCCTGAGTTCTCCAGCATTC CTGCCCAGATCAGCCCTGAGGGTCGGGCTGCCATGGAGCCCATTGTGATCT CTGC	249	SLPPSTGTFQEAQSRLNEA AAGLNQAATELVQASRGTP QDLARASGRFGQDFSTFLE AGVEMAGQAPSQEDRAQV VSNLKGISMSSSKLLLAAKA LSTDPAAPNLKSQLAAAAR AVTDSINQLITMCTQQAPG QKECDNALRELETVRELLE NPVQPINDMSYFGCLDSVM ENSKVLGEAMTGISQNAKN GNLPEFGDAISTASKALCG FTEAAAQAAYLVGVSDPNS QAGQQGLVEPTQFARANQ AIQMACQSLGEPGCTQAQ VLSAATIVAKHTSALCNSCR LASARTTNPTAKRQFVQSA KEVANSTANLVKTIKALDGA FTEENRAQCRAATAPLLEA VDNLSAFASNPEFSSIPAQI SPEGRAAMEPIVIS
Shigella ospD1	2	prey67630	49	GAGGACCTGCAGCCACCCAGCGCCCTGTCGGCCCCCTTCACCAACAGCCTC GCTCGCTCTGCGCGCCAGTCTGTGCTCCGGTATAGCACTCTCCCTGGGCGC AGGGCCCTGAAGAACTCCCGCCTAGTGAGCCAGAAGGATGACGTCCACGTC TGTATCCTTTGTCTCAGAGCCATCATGAACTATCAGTACGGATTCAACCTGGT CATGTCCCACCCCCATGCTGTCAATGAGATTGCACTTAGCCTCAATAACAAG AATCCAAGGACCAAAGCCCTTGTCTTAGAGCTTCTGGCAN	250	EDLQPPSALSAPFTNSLAR SARQSVLRYSTLPGRRALK NSRLVSQKDDVHVCILCLR AIMNYQYGFNLVMSHPHAV NEIALSLNNKNPRTKALVLE LLA

Shigella ospD1	2	prey12665	50	GAAGCGGCACGAGCGAATGATCAAGAACCGGGAGTCAGCCTGCCAGTCCC GGAGAAAGAAGAAAGAGTATCTGCAGGGACTGGAGGCTCGGCTGCAAGCAG TACTGGCTGACAACCAGCAGCTCCGCCGAGAGAATGCTGCCCTCCGGCGGC GGCTGGAGGCCCTGCTGGCTGAAAACAGCGAGCTCAAGTTAGGGTCTGGAA ACAGGAAGGTGGTCTGCATCATGGTCTTCCTTCTCTTCATTGCCTTCAACTTT GGACCTGTCAGCATCAGTGAGCCTCCTTCAGCTCCCATCTCTCCTCGGATGA ACAAGGGGGAGCCTCAACCCCGGAGACACTTGCTGGGGTTCTCAGAGCAAG AGCCAGTTCAGGGAGTTGAACCTCTCCAGGGGTCCTCCCAGGGCCCTAAGG AGCCCCAGCCCAGCCCCACAGACCAGCCCAGTTTCAGCAACCTGACAGCCT TCCCTGGGGGCGCCAAGGAGCTACTACTAAGAGACCTAGACCAGCTCTTCC TCTCCTCTGATTGCCGGCACTTCAACCGCACTGAGTCCCTGAGGCTTGCTGA CGAGTTGAGTGGCTGGGTCCAGCGCCACCAGAGAGGCCGGAGGAAGATCC CTCAGAGGGCCCAGGAGAGACAGAAGTCTCAGCCACGGAAGAAGTCACCTC CAGTTAAGGCAGTCCCCATCC	251	KRHERMIKNRESACQSRR KKKEYLQGLEARLQAVLAD NQQLRRENAALRRRLEALL AENSELKLGSGNRKVVCIM VFLLFIAFNFGPVSISEPPSA PISPRMNKGEPQPRRHLLG FSEQEPVQGVEPLQGSSQ GPKEPQPSPTDQPSFSNLT AFPGGAKELLLRDLDQLFL SSDCRHFNRTESLRLADEL SGWVQRHQRGRRKIPQRA QERQKSQPRKKSPPVKAV PI
Shigella ospD1	2	prey67631	51	TGAGAGCGAGGTCTCGGAGCATCTCAGTGCCAGCTCGGCTTCTGCCATCCA GCAGGACAGCACTTCCAGCATGCAGCCACCATCTGAAGCCCCCATGGTGAA CACAGTCAGCTCAGCTTATTCGGAGGATTTTGAAAACTCTCCAAGTCTGACA GCATCTGAGCCAACCGCCCATTCCAAGGAGTCTCTTGACAGAACACTGGAC GCTTTGTCTGAATCCTCTTCAAGTGTGAAGACAGACCTTCCACAAACAGCCG AGTCTAGGAAAAAGTCGGGCAGGCACGTGACAAGAGTGCTTGTGAAGGACA CAGCTGTGCAGACGCCAGATCCTGCCTTCACCTACGAGTGGACCAAGGTGG CCAGCATGGCAGCCATGGGGCCTGCCCTGGGAGGCGCCTACGTGGACCCG ACACCCATCGCCAATCATGTTATCAGTGCAGATGCAATAGAAGCCCTGACCG CTTACAGCCCGGCCGTGCTGGCACTCCATGATGTGCTGAAGCAGCAGCTGA GCCTGACGCAGCAGTTCATCCAGGCCAGCCGGCACCTGCACGCCTCCCTCC TGCGCTCCCTGGACGCGGACTCCTTCCACTACCACACCCTGGAGGAAGCCA AAGAGTACATTAGGTGCCACAGACCTGCCCCACTGACCATGGAGGATGCCC TGGAGGAGGTGAACAAGGAGCTGTGA	252	ESEVSEHLSASSASAIQQD STSSMQPPSEAPMVNTVS SAYSEDFENSPSLTASEPT AHSKESLDRTLDALSESSS SVKTDLPQTAESRKKSGRH VTRVLVKDTAVQTPDPAFT YEWTKVASMAAMGPALGG AYVDPTPIANHVISADAIEAL TAYSPAVLALHDVLKQQLS LTQQFIQASRHLHASLLRSL DADSFHYHTLEEAKEYIRC HRPAPLTMEDALEEVNKEL *
Shigella ospD1	2	prey20143	52	ATGGCAGAGAGCCGCCAGGACCTGGAGGAGGAGTATGAGCCTCAGTTCCTG CGGCTCCTAGAGAGGAAAGAAGCTGGGACCAAAGCTCTGCAGAGAACCCAG GCTGAGATCCAGGAAATGAAGGAGGCTCTGAGACCCCTGCAAGCAGAGGCC CGGCAGCTCCGCCTGCAAAACAGGAACCTGGAGGACCAGATCGCACTTGTG AGGCAAAAACGAGATGAAGAGGTGCAGCAGTACAGGGAACAGCTGGAGGAA ATGGAAGAACGCCAGAGGCAGTTAAGAAATGGGGTGCAACTCCAGCAACAG AAGAACAAAGAGATGGAACAGCTAAGGCTCAGTCTTGCTGAAGAGCTCTCTA CTTATAAGGCTATGCTACTACCCAAGAGCCTGGAACAGGCTGATGCTCCCAC TTCTCAGGCAGGTGGAATGGAGACACAGTCTCAAGGGGCTGTTTAG	253	MAESRQDLEEEYEPQFLRL LERKEAGTKALQRTQAEIQ EMKEALRPLQAEARQLRLQ NRNLEDQIALVRQKRDEEV QQYREQLEEMEERQRQLR NGVQLQQQKNKEMEQLRL SLAEELSTYKAMLLPKSLE QADAPTSQAGGMETQSQG AV*
Shigella ospD1	2	prey1418	53	CTGGGTCATCCCAGATCCCGAAGAGGAACCAGAGCGCAAGCGAAAGAAGG GCCCAGCCCCGAAGATGCTGGGCCACGAGCTTTGCCGTGTCTGTGGGGAC	254	WVIPDPEEEPERKRKKGPA PKMLGHELCRVCGDKASG

				AAGGCCTCCGGCTTCCACTACAACGTGCTCAGCTGCGAAGGCTGCAAGGGC TTCTTCCGGCGCAGTGTGGTCCGTGGTGGGGCCAGGCGCTATGCCTGCCG GGGTGGCGGAACCTGCCAGATGGACGCTTTCATGCGGCGCAAGTGCCAGC AGTGCCGGCTGCGCAAGTGCAAGGAGGCAGGGATGAGGGAGCAGTGCGTC CTTTCTGAAGAACAGATCCGGAAGAAGAAGATTCGGAAACAGCAGCAGCAG GAGTCACAGTCACAGTCGCAGTCACCTGTGGGGCCGCAGGGCAGCAGCAG CTCAGCCTCTGGGCCTGGGGCTTCCCCTGGTGGATCTGAGGCAGGCAGCC AGGGCTCCGGGGAAGGCGAGGGTGTCCAGCTAACAGCGGCTCAAGAACTA ATGATCCAGCAGTTGGTGGCGGCCCAACTGCAGTGCAACAAACGCTCCTTC TCCGACCAGCCCAAAGTCACGCCCTGGCCCCTGGGCGCAGACCCCCAGTC CCGAGATGCCCGCCAGCAACGCTTTGCCCACTTCACGGAGCTGGCCATCAT CTCAGTCCAGGAGATCGTGGACTTCGCTAAGCAAGTGCCTGGTTTCCTGCA GCTGGGCCGGGAGGACCAGATCGCCCTCCTGAAGGCATCCACTATCGAGAT CATGCTGCTAGAGACAGCCAGGCGCTACAACCACGAGA		FHYNVLSCEGCKGFFRRSV VRGGARRYACRGGGTCQ MDAFMRRKCQQCRLRKCK EAGMREQCVLSEEQIRKKK IRKQQQQESQSQSQSPVG PQGSSSSASGPGASPGGS EAGSQGSGEGEGVQLTAA QELMIQQLVAAQLQCNKRS FSDQPKVTPWPLGADPQS RDARQQRFAHFTELAIISVQ EIVDFAKQVPGFLQLGRED QIALLKASTIEIMLLETARRY NHE
Shigella ospD1	2	prey67642	54	ATGAAGGATGAACCACGGTCCACGAACCTGTTCATGAAGCTGGACTCGGTCT TCATCTGGAAGGAACCCTTTGGCCTGGTCCTCATCATCGCACCCTGGAACTA CCCATTGAACCTGACCCTGGTGCTCCTGGTGGGCACCCTCCCCGCAGGGAA TTGCGTGGTGCTGAAGCCGTCAGAAATCAGCCAGGGCACAGAGAAGGTCCT GGCTGAGGTGCTGCCCCAGTACCTGGACCAGAGCTGCTTTGCCGTGGTGCT GGGCGGACCCCAGGAGACAGGGCAGCTGCTAGAGCACAAGTTGGACTACA TCTTCTTCACAGGGAGCCCTCGTGTGGGCAAGATTGTCATGACTGCTGCCAC CAAGCACCTGACGCCTGTCACCCTGGAGCTGGG	255	MKDEPRSTNLFMKLDSVFI WKEPFGLVLIIAPWNYPLNL TLVLLVGTLPAGNCVVLKP SEISQGTEKVLAEVLPQYLD QSCFAVVLGGPQETGQLLE HKLDYIFFTGSPRVGKIVMT AATKHLTPVTLEL
Shigella ospD1	2	prey67648	55	GCTGGGGATCGCGCTGGCGCTCCTGGGCGAGAGGCTTCTGGCACTCAGAA ATCGACTTAAAGCCTCCAGAGAAGTAGAATCTGTAGACCTTCCACACTGCCA CCTGATTAAAGGAATTGAAGCTGGCTCTGAAGATATTGACATACTTCCCAATG GTCTGGCTTTTTTTAGTGTGGGTCTAAAATTCCCAGGACTCCACAGCTTTGCA CCAGATAAGCCTGGAGGAATACTAATGATGGATCTAAAAGAAGAAAAACCAA GGGCACGGGAATTAAGAATCAGTCGTGGGTTTGATTTGGCCTCATTCAATCC ACATGGCATCAGCACTTTCATAGACAACGATGAC	256	LGIALALLGERLLALRNRLK ASREVESVDLPHCHLIKGIE AGSEDIDILPNGLAFFSVGL KFPGLHSFAPDKPGGILMM DLKEEKPRARELRISRGFD LASFNPHGISTFIDNDD
Shigella ospC1	3	prey67266	56	NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNGGTTCTTAATCTTTGCTCTC CTGACCCTTTTACTCTCATAAAAATTATTNGAGGACTCCAAATATAATAGCTTT TATTTATGTATGTNATAACTTTGGATACTATATTAGAATTAAAACTGAGAAANT TAAAGGGCTTAATTAAAAAATAACTCTGTACATGTTAAAN	257	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX XXXXXXVLNLCSPDPFTLIKI IXGLQI**LLFMYVITLDTILEL KLRXLKGLIKK*LCTC*
Shigella ospC1	3	prey67267	57	TACTATTTACTGGATGTCTCAGTAGGCATAGTTTAGAGATACGTTGTGTGCAA TAGACATATAAATGATTTGTTTACATTACTCCATATAAATGATTTGTTTGTTTAA TGTCTTGGAAATTATTTTATGTCTTATGGTTGCTGATTCTGTTGCCATCNGATT ACTACGATAAANAAGATCTGNGNCTANNGANGGGNCTTNTTTGAACTGNTNC	258	YYLLDVSVGIV*RYVVCNRH INDLFTLLHINDLFV*CLGNY FMSYGC*FCCHXITTIXKIXX XXXXXFELXLXXXXGXXCX

				TNNGGCNTNGGNTNGGGNGCNTNTGTNTNGNCNNNGTTGTTGNGNNNANG GCGNGNNCGGNGNCNGTTGATTNNCAGGTNTGGNNNNGNTGGNGGCNCNT GGCNCCTNGCATNTN		XXVVXXXAXXXXVDXQVW XXWXXXAPXX
Shigella ospC1	3	prey50590	58	GTTTGATCAGCCTCAGGAATACTTCATGGAGTTGACATTCAATCAAGCTGCAA AGGGGGTCAACAAGGAGTTCACCGTGAACATCATGGACACGTGTGAGCGCT GCAACGGCAAGGGGAACGAGCCCGGCACCAAGGTGCAGCATTGCCACTAC TGTGGCGGCTCCGGCATGGAAACCATCAACACAGGCCCTTTTGTGATGCGT TCCACGTGTAGGAGATGTGGTGGCCGCGGCTCCATCATCATATCGCCCTGT GTGGTCTGCAGGGGAGCAGGACAAGCCAAGCAGAAAAAGCGAGTGATGATC CCTGTGCCTGCAGGAGTCGAGGATGGCCAGACCGTGAGGATGCCTGTGGG AAAAAGGGAAATTTTCATTACGTTCAGGGTGCAGAAAAGCCCTGTGTTCCGG AGGGACGGCGCAGACATCCACTCCGACCTCTTTATTTCTATAGCTCAGGCTC TTCTTGGGGGAACAGCCAGAGCCCAGGGCCTGTACGAGACGATCAACGTGA CGATCCCCCCTGGGACTCAGACAGACCAGAAGATTCGGATGGGTGGGAAAG GCATCCCCCGGATTAACAGCTACGGCTACGGAGACCACTACATCCACATCAA GATACGAGTTCCAAAGAGGCTAACGAGCCGGCAGCAGAGCCTGATCCTGAG CTACGCCGAGGACGAGACAGATGTGGAGGGGACGGTGAACGGCGTCACCC TCACCAGCTCTGGTGGCAGCACCATGGATAGCTCCGCAGGAAGCAAGGCTA GGCGTGAGGCTGGGGAGGACGAGGAGGGATTCCTTTCCAAACTTAAGAAAA TGTTTACCTCATGA	259	FDQPQEYFMELTFNQAAK GVNKEFTVNIMDTCERCNG KGNEPGTKVQHCHYCGGS GMETINTGPFVMRSTCRRC GGRGSIIISPCVVCRGAGQ AKQKKRVMIPVPAGVEDG QTVRMPVGKREIFITFRVQ KSPVFRRDGADIHSDLFISI AQALLGGTARAQGLYETIN VTIPPGTQTDQKIRMGGKGI PRINSYGYGDHYIHIKIRVP KRLTSRQQSLILSYAEDETD VEGTVNGVTLTSSGGSTM DSSAGSKARREAGEDEEG FLSKLKKMFTS*
Shigella ospC1	3	prey9822	59	ATGGCGGACCTTGATTCGCCTCCGAAGCTGTCAGGGGTGCAGCAGCCGTCT GAGGGGGTGGGAGGTGGCCGCTGCTCCGAAATCTCCGCTGAGCTCATTCG CTCCCTGACAGAGCTGCAGGAGCTGGAGGCTGTATACGAACGGCTCTGCGG CGAGGAGAAAGTGGTGGAGAGAGAGCTGGATGCTCTTTTGGAACAGCAAAA CACCATTGAAAGTAAGATGGTCACTCTCCACCGAATGGGTCCTAATCTGCAG CTGATTGAGGGAGATGCAAAGCAGCTGGCTGGAATGATCACCTTTACCTGCA ACCTGGCTGAGAATGTGTCCAGCAAAGTTCGTCAGCTTGACCTGGCCAAGAA CCGCCTCTATCAGGCCATTCAGAGAGCTGATGACATCTTGGACCTGAAGTTC TGCATGGATGGAGTTCAGACTGCTTTGAGGAGTGAAGATTATGAGCAGGCTG CAGCACATATTCATCGCTACTTGTGCCTGGACAAGTCGGTCATTGAGCTCAG CCGACAGGGCAAAGGGGGGAGCATGATTGATGCCAACCTGAAATTGCTGCA GGAAGCTGAGCAACGTCTCAAAGCCATTGTGGCAGAGAAGTTTGCCATTGC CACCAAGGAAGGTGATTTGCCCCAGGTGGAGCGCTTCTTCAAGATCTTCCCA CTGCTGGGTTTGCATGAGGAGGGATTAAGAAGGTTCTCGGAGTACCTTTGCA AGCAGGTGGCCAGTAAAGCTGAGGAGAATCTGCTCATGGTGCTGGGGACAG ACATGAGTGATCGGAGAGCTGCAGTCATCTTTGCAGATACACTTACTCTTCT GTTTGAAGGGATTGCCCGCATTGTGGAGGCCCACCAGCCAATAGTGGAGAC CTATTATGGGCCAGGGAGACTCTATACCCTGATCAAATATCTGCAGGTGGAA TGTGACAGACAGGTGGAGAAGGTGGTAGACAAGTTCATCAAGCAAAGGGAC	260	MADLDSPPKLSGVQQPSE GVGGGRCSEISAELIRSLTE LQELEAVYERLCGEEKVVE RELDALLEQQNTIESKMVTL HRMGPNLQLIEGDAKQLAG MITFTCNLAENVSSKVRQL DLAKNRLYQAIQRADDILDL KFCMDGVQTALRSEDYEQ AAAHIHRYLCLDKSVIELSR QGKGGSMIDANLKLLQEAE QRLKAIVAEKFAIATKEGDL PQVERFFKIFPLLGLHEEGL RRFSEYLCKQVASKAEENL LMVLGTDMSDRRAAVIFAD TLTLLFEGIARIVEAHQPIVE TYYGPGRLYTLIKYLQVEC DRQVEKVVDKFIKQRDYHQ QFRHVQNNLMRNSTTEKIE PRELDPILTEVTLMNARSEL

				TACCACCAGCAGTTCCGGCATGTTCAGAACAACCTGATGAGAAATTCTACAA CAGAAAAAATCGAACCAAGAGAACTGGACCCCATCCTGACTGAGGTCACCCT GATGAACGCCCGCAGTGAGCTATACTTACGCTTCCTCAAGAAGAGGATTAGC TCTGATTTTGAGGTGGGAGACTCCATGGCCTCAGAGGAAGTAAAGCAAGAG CACCAGAAGTGTCTGGACAAACTCCTCAATAACTGCCTTTTGAGCTGTACCA TGCAGGAGCTAATTGGCTTATATGTTACCATGGAGGAGTACTTCATGAGGGA GACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGGCCAGCTGAC ATCCAGCATGGTGGATGATGTCTTCTACATTGTTAAGAAGTGCATTGGGCGG GCTCTGTCCAGCTCCAGCATTGACTGTCTCTGTGCCATGATCAACCTCGCCA CCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGAT GGGCTTTCCTGCCACCACCTTCCAGGACATCCAGCGCGGGGTGACAAGTGC CGTGAACATCATGCACAGCAGCCTCCAGCAAGGCAAATTTGACACAAAAGGC ATCGAGAGTACTGACGAGGCGAAGATGTCCTTCCTGGTGACTCTGAACAAC GTGGAAGTCTGCAGTGAAAACATCTCCACTCTGAAGAAGACACTGGAGAGTG ACTGCACCAAGCTCTTCAGCCAGGGCATTGGAGGGGAGCAGGCCCAGGCC AAGTTTGACGGCTGCCTTTCTGACTTGGCCGCCGTGTCCAACAAATTCCGAG ACCTCTTGCAGGAAGGGCTGACGGAGCTCAACAGCACAGCCATCAAGCCAC AGGTGCAGCCTTGGATCAACAGCTTTTTCTCCGTCTCCCACAACATCGAGGA GGAAGAATTCAATGACTATGAGGCCAACGACCCTTGGGTACAACAGTTCATC CTTAACCTGGAGCAGCAAATGGCAGAGTTCAAGGCCAGCCTGTCCCCGGTC ATCTACGACAGCCTAACCGGCCTCATGACTAGCCTTGTTGCCGTCGAGTTGG AGAAAGTGGTGCTGAAATCCACCTTTAACCGGCTGGGTGGTCTGCAGTTTGA CAAGGAGCTGAGGTCGCTCATTGCCTACCTTACCACGGTGACCACCTGGAC CATCCGAGACAAGTTTGCCCGGCTCTCCCAGATGGCCACCATCCTCAATCTG GAGCGGGTGACCGAGATCCTCGATTACTGGGGACCCAATTCCGGCCCATTG ACGTGGCGCCTCACCCCTGCTGAAGTGCGCCAGGTGCTGGCCCTGCGGAT AGACTTCCGCAGTGAAGATATCAAGAGGCTGCGCCTGTAG		YLRFLKKRISSDFEVGDSM ASEEVKQEHQKCLDKLLNN CLLSCTMQELIGLYVTMEE YFMRETVNKAVALDTYEKG QLTSSMVDDVFYIVKKCIGR ALSSSSIDCLCAMINLATTE LESDFRDVLCNKLRMGFPA TTFQDIQRGVTSAVNIMHS SLQQGKFDTKGIESTDEAK MSFLVTLNNVEVCSENISTL KKTLESDCTKLFSQGIGGE QAQAKFDGCLSDLAAVSNK FRDLLQEGLTELNSTAIKPQ VQPWINSFFSVSHNIEEEEF NDYEANDPWVQQFILNLEQ QMAEFKASLSPVIYDSLTGL MTSLVAVELEKVVLKSTFN RLGGLQFDKELRSLIAYLTT VTTWTIRDKFARLSQMATIL NLERVTEILDYWGPNSGPL TWRLTPAEVRQVLALRIDF RSEDIKRLRL*
Shigella ospC1	3	prey67268	60	CCGTGTCTTGGCTGGCTCATTTATCAGGGTTGTCTTTCTCTTTGTCTTTGACT AGGCTATTTTACTACTCTATAGAGATAGAAATTTGTTTACAGTGCACTAATACT GATGTAAATAATTCCTGTTCATAAAACTGCAAATTATATCATTGAATGCAATTG ATTATGGCCCTGTAGACATTCAAGAGTTTTGCCAGTTTGCACCCATTTGTAAA TGTGTTTTAGCATCTCTTATCTGACTATAAATGTGCTGCTTTTGATTTATCTTA CAAACCATTTGTCACN	261	PCLGWLIYQGCLSLCL*LGY FTTL*R*KFVYSALILM*IIPV HKTANYIIECN*LWPCRHSR VLPVCTHL*MCFSISYLTINV LLLIYLTNHLS
Shigella ospC1	3	prey67270	61	NCNGGTGNGTGNAGANGGAGTNNANCTNTGCCACTGCATGNTGTTTTGCTC AGGCANGATNNATGATGCTTGACTTTTATGAAGTTCCANNATTCAAATGGATN TGATGCNTAACCTTCCCCATGTANTNGTTGTACATGTTCATGNGGGCTGGNN TNNCTNNTNNTTCTATNGNTCATTAGATNNNNNNNCACTCTTGNACTCTCNCT NTANTTACCCTCATGCCATTGANNAATCTGTCNTTCTCATTNATGATCCCNTA NNNNCTGNCCANNGATCTCTC	262	XGXXRXSXXXPLHXVLLRX DX*CLTFMKFXXSNGXDA* PSPCXXCTCSXGLXXLXXL XXIRXXXTLXLSLXLPSCH* XICXSHX*SXXXXPXIS

Shigella ospC1	3	prey67271	62	GCAGGAGCTGCAGAAGAAGGCAGAGCACCAGGTGGGGGAAGATGGGTTTTTACTGAAGATCAAGCTGGGGCACTATGCCACACAGCTCCAGAACACGTATGACCGCTGCCCCATGGAGCTGGTCCGCTGCATCCGCCATATATTGTACAATGAACAGAGGTTGGTCCGAGAAGCCAACAATGGTAGCTCTCCAGCTGGAAGCCTTGCTGATGCCATGTCCCAGAAACACCTCCAGATCAACCAGACGTTTGAGGAGCTGCGACTGGTCACGCAGGACACAGAGAATGAGTTAAAAAAGCTGCAGCAGACTCAGGAGTACTTCATCATCCAGTACCAGGAGAGCCTGAGGATCCAAGCTCAGTTTGGCCCGCTGGCCCAGCTGAGCCCCCAGGAGCGTCTGAGCCGGGAGACGGCCCTCCAGCAGAAGCAGGTGTCTCTGGAGGCCTGGTTGCAGCGTGAGGCACAGACACTGCAGCAGTACCGCGTGGAGCTGCCCGAGAAGCACCAGAAGACCCTGCAGCTGCTGCGGAAGCAGCAGACCATCATCCTGGATGACGAGCTGATCCAGTGGAAGCGGCGGCAGCAGCTGGCCGGGAACGGCGGGCCCCCCGAGGGCAGCCTGGACGTGCTACAGTCCTGGTGTGAGAAGTTGGCGGAGATCATCTGGCAGAACCGGCAGCAGATCCGCAGGGCTGAGCACCTCTGCCAGCAGCTGCCCATCCCCGGCCCAGTGGAGGAGATGCTGGCCGAGGTCAACGCCACCATCACGGACATTATCTCAGCCCTGGTGACCAGCACGTTCATCATTGAGAAGCAGCCTCCTCAGGTCCTGAAGACCCAGACCAAGTTTGCAGCCACTGTGCGCCTGCTGGTGGGCGGGAAGCTGAACGTGCACATGAACCCCCCCCAGGTGAAGGCCACCATCATCAGTGAGCAGCAGGCCAAGTCTCTGCTCAAGAACGAGAACACCCGCAATGATTACAGTGGCGAGATCTTGAACAACTGCTGCGTCATGGAGTACCACCAAGCCACAGGCACCCTTAGTGCCCACTTCAGGAATATGTCCCTGAAACGAATTAAGAGGTCAGACCGTCGTGGGGCAGAGTCGGTGACAGAAGAAAAATTTACAATCCTGTTTGAATCCCAGTTCAGTGTTGGTGGAAATGAGCTGGTTTTTCAAGTCAAGACCCTGTCCCTGCCAGTGGTGGTGATCGTTCATGGCAGCCAGGACAACAATGCGACGGCCACTGTTCTCTGGGACAATGCTTTTGCAGAGCCTGGCAGGGTGCCATTTGCCGTGCCTGACAAAGTGCTGTGGCCACAGCTGTGTGAGGCGCTCAACATGAAATTCAAGGCCGAAGTGCAGAGCAACCGGGGCCTGACCAAGGAGAACCTCGTGTTCCTGGCGCAGAAACTGTTCAACAACAGCAGCAGCCACCTGGAGGACTACAGTGGCCTGTCTGTGTCCTGGTCCCAGTTCAACAGGGAGAATTTACCAGGACGGAATTACACTTTCTGGCAATGGTTTGACGGTGTGATGGAAGTGTTAAAAAAACATCTCAAGCCTCATTGGAATGATGGGGCCATTTTGGGGTTTGTAAACAAGCAACAGGCCCATGACCTACTGATTAACAAGCCAGATGGGACCTTCCTCCTGAGATTCAGTGACTCAGAAATTGGCGGCATCACCATTGCTTGGAAGTTTGATTCTCAGGAAAGAATGTTTTGGAATCTGATGCCTTTTACCACCAGAGACTTCTCCATCAGGTCCCTAGCCGACCGCTTGGGAGACTTGAATTACCTTATCTACGTGTTTCCTGATCGGCCAAAAGATGAAGTATACTCCAAATACTACACACCAGTTCCCTGCGAGTCTGCTACTGCTAAAGCTGTTGATGGATACGTGAAGCCACAGATCAAGCAAGTGGTCCCTGAGTTTGTGAACGCATCTGCAGATGCCGGGGGCGGCAGCGCCACGTACATGGACCAGGCCCCCTCCCC	263	QELQKKAEHQVGEDGFLLKIKLGHYATQLQNTYDRCPMELVRCIRHILYNEQRLVREANNGSSPAGSLADAMSQKHLQINQTFEELRLVTQDTENELKKLQQTQEYFIIQYQESLRIQAQFGPLAQLSPQERLSRETALQQKQVSLEAWLQREAQTLQQYRVELPEKHQKTLQLLRKQQTIILDDELIQWKRRQQLAGNGGPPEGSLDVLQSWCEKLAEIIWQNRQQIRRAEHLCQQLPIPGPVEEMLAEVNATITDIISALVTSTFIIEKQPPQVLKTQTKFAATVRLLVGGKLNVHMNPPQVKATIISEQQAKSLLKNENTRNDYSGEILNNCCVMEYHQATGTLSAHFRNMSLKRIKRSDRRGAESVTEEKFTILFESQFSVGGNELVFQVKTLSLPVVVIVHGSQDNNATATVLWDNAFAEPGRVPFAVPDKVLWPQLCEALNMKFKAEVQSNRGLTKENLVFLAQKLFNNSSSHLEDYSGLSVSWSQFNRENLPGRNYTFWQWFDGVMEVLKKHLKPHWNDGAILGFVNKQQAHDLLINKPDGTFLLRFSDSEIGGITIAWKFDSQERMFWNLMPFTTRDFSIRSLADRLGDLNYLIYVFPDRPKDEVYSKYYTPVPCESATAKAVDGYVKPQIKQVVPEFVNASADAGGGSATYMDQAPSPAVCPQAHYNMYPQNPDSVLDTDGDFDLEDTMDVARRVEELLGRPMDSQWIPHAQS*

				AGCTGTGTGTCCCCAGGCTCACTATAACATGTACCCACAGAACCCTGACTCA GTCCTTGACACCGATGGGGACTTCGATCTGGAGGACACAATGGACGTAGCG CGGCGTGTGGAGGAGCTCCTGGGCCGGCCAATGGACAGTCAGTGGATCCC GCACGCACAATCGTGA		
Shigella ospC1	3	prey700	63	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGCCTTTGCCAGATCTACAGACCAGACCGTTCTAGAAGAATTAGCTTCCAT TAAGAATAGACAAAGAATTCAGAAATTGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAAACAACACAACAGTTATACCCAAGTTTACTTGAAAGAAATCCTAA TCTCCTTTTCACATTAAAAGTGCGTCAGTTTATAGAAATGGTGAATGGTACAG ATAGTGAAGTACGATGTTTGGGAGGCCGAAGTCCAAAGTCTCAAGACAGTTA TCCTGTTAGTCCTCGACCTTTTAGTAGTCCAAGTATGAGCCCCAGCCATGGA ATGAATATCCACAATTTAGCATCAGGCAAAGGAAGCACCGCACATTTTTCAG GTTTTGAAAGTTGTAGTAATGGTGTAATATCAAATAAAGCACATCAATCATATT GCCATAGTAATAAACACCAGTCATCCAACTTGAATGTACCAGAACTAAACAGT ATAAATATGTCAAGATCACAGCAAGTTAATAACTTCACCAGTAATGATGTAGA CATGGAAACAGATCACTACTCCAATGGAGTTGGAGAAACTTCATCCAATGGT TTCCTAAATGGTAGCTCTAAACATGACCACGAAATGGAAGATTGTGACACCG AAATGGAAGTTGATTCAAGTCAGTTGAGACGCCAGTTGTGTGGAGGAAGTCA GGCCGCCATAGAAAGAATGATCCACTTTGGACGAGAGCTGCAAGCAATGAG TGAACAGCTAAGGAGAGACTGTGGCAAGAACACTGCAAACAAAAAAATGTTG AAGGATGCATTCAGTCTACTAGCATATTCAGATCCCTGGAACAGCCCAGTTG GAAATCAGCTTGACCCGATTCAGAGAGAACCTGTGTGCTCAGCTCTTAACAG TGCAATATTAGAAACCCACAATCTGCCAAAGCAACCTCCACTTGCCCTAGCA ATGGGACAGGCCACACAATGTCTAGGACTGATGGCTCGATCAGGAATTGGA TCCTGCGCATTTGCCACAGTGGAAGACTACCTACATTAG	264	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAIETTQQLYPSLLERN PNLLFTLKVRQFIEMVNGT DSEVRCLGGRSPKSQDSY PVSPRPFSSPSMSPSHGM NIHNLASGKGSTAHFSGFE SCSNGVISNKAHQSYCHSN KHQSSNLNVPELNSINMSR SQQVNNFTSNDVDMETDH YSNGVGETSSNGFLNGSS KHDHEMEDCDTEMEVDSS QLRRQLCGGSQAAIERMIH FGRELQAMSEQLRRDCGK NTANKKMLKDAFSLLAYSD PWNSPVGNQLDPIQREPV CSALNSAILETHNLPKQPPL ALAMGQATQCLGLMARSGI GSCAFATVEDYLH*
Shigella ospC1	3	prey3486	64	GATCGAGATCCATGGGAAGGCAGGCCTGTTTTTAGAAGGCCAGATCCACCC CGAGTTGGAAGGAGTCGAGATTGTCATCAGTGAAAAGGGGGCAAGTTCACC GCTGATCACAGTCTTTACTGATGACAAAGGTGCCTACAGTGTTGGCCCCCTG CACAGTGACCTGGAGTACACGGTGACCTCACAGAAGGAGGGCTATGTTCTG ACTGCGGTGGAAGGAACCATCGGAGACTTCAAGGCCTATGCCCTGGCAGGC GTAAGCTTTGAGATAAAAGCTGAGGATGACCAGCCCCTCCCGGGAGTCCTC	265	IEIHGKAGLFLEGQIHPELE GVEIVISEKGASSPLITVFTD DKGAYSVGPLHSDLEYTVT SQKEGYVLTAVEGTIGDFK AYALAGVSFEIKAEDDQPL PGVLLSLSGGLFRSNLLTQ

				TTATCCCTGAGCGGTGGCCTGTTTCGTTCCAACCTCTTGACCCAGGACAACG GCATTCTGACATTCTCAAACCTGAGCCCTGGCCAGTATTACTTCAAACCCAT GATGAAGGAGTTCCGGTTTGAGCCATCCTCACAGATGATCGAGGTGCAGGA AGGCCAGAACCTGAAGATCACCATCACGGGGTACCGAACCGCTTACAGTTG CTATGGCACAGTGTCTTCCTTAAACGGAGAGCCCGAACAAGGGGTTGCCAT GGAAGCGGTGGGCCAGAACGACTGCAGCATTTACGGAGAAGACACCGTGAC AGACGAAGAGGGCAAGTTCAGATTACGTGGATTGCTGCCGGGATGTGTGTA CCACGTTCAGCTCAAGGCAGAAGGCAACGACCACATTGAGCGGGCGCTCCC CCACCATAGGGTGATTGAGGTTGGGAATAATGACATCGATGATGTAAACATC ATAGTTTTCCGGCAGATTAATCAATTTGATTTAAGTGGAAATGTGATCACTTC CTCTGAATACCTTCCTACATTATGGGTCAAGCTTTACAAAAGCGAAAACCTCG ACAATCCAATCCAGACAGTTTCCCTTGGCCAGTCCCTGTTCTTCCATTTCCCC CCACTGCTCAGAGACGGCGAGAACTATGTTGTGCTTCTGGACTCCACACTCC CCAGATCCCAGTATGACTACATCTTGCCTCAAGTTTCTTTCACCGCAGTGGG CTACCATAAACACACCACCTTGATTTTTAATCCCACGAGGAAGCTGCCTGAA CAGGACATCGCACAAGGATCCTACATTGCCCTGCCATTGACGCTGCTGGTTC TGCTGGCCGGTTACAACCATGACAAGCTCATTCCTTTGCTGCTGCAGTTGAC AAGCCGGCTACAGGGAGTCCGCGCGCTCGGCCAGGCAGCCTCTGACAATA GCGGCCCAGAAGATGCAAAGAGACAAGCCAAGAAACAGAAGACAAGGCGGA CTTGA		DNGILTFSNLSPGQYYFKP MMKEFRFEPSSQMIEVQE GQNLKITITGYRTAYSCYGT VSSLNGEPEQGVAMEAVG QNDCSIYGEDTVTDEEGKF RLRGLLPGCVYHVQLKAEG NDHIERALPHHRVIEVGNN DIDDVNIIVFRQINQFDLSG NVITSSEYLPTLWVKLYKSE NLDNPIQTVSLGQSLFFHFP PLLRDGENYVVLLDSTLPR SQYDYILPQVSFTAVGYHK HTTLIFNPTRKLPEQDIAQG SYIALPLTLLVLLAGYNHDK LIPLLLQLTSRLQGVRALGQ AASDNSGPEDAKRQAKKQ KTRRT*
Shigella ospC1	3	prey14801	65	CCTGGGCCTACATTCTCCCATTGCCCTAGATGTACTGAGTGAGGCTTTTGAG GAATCCTTGGTGGCCAGAGATTGGTCCCGGGCCCTTCAGCTCACTGAAGTG TACGGGCGAGATGTGGACGATTTGAGCAGCATAAAGGATGCAGTCCTGAGC TGTGCTGTGGCATATGACAAAGAAGGTTGGCAATACCTGTTTCCCGTGAAGG ATGCATCTCTGAGAAGTCGGCTGGCCCTACAGTTTGTGGACAGGTGGCCCC TGGAGTCATGCCTGGAGATTCTGGCCTACTGCATTTCAGACACGGCTGTCCA AGAAGGACTAAAGTGTGAGCTACAGAGGAAGCTGGCGGAGCTGCAGGTGTA TCAGAAGATTCTGGGTTTGCAGTCTCCCCCAGTGTGGTGTGACTGGCAGAC CTTGAGGAGCTGTTGTGTTGAGGACCCATCAACTGTCATGAACATGATTCTA GAAGCACAGGAGTATGAACTGTGTGAAGAGTGGGGCTGCCTGTACCCCATT CCAAGAGAACATTTAATCAGCCTTCATCAAAAGCATCTTCTCCACCTTCTAGA AAGAAGAGATCATGACAAGGCTCTGCAACTCCTGCGAAGAATCCCTGACCCC ACCATGTGCCTTGAAGTGACAGAGCAATCCCTCGACCAGCACACTAGCTTGG CCACTTCTCACTTCTTGGCCAACTACCTCACCACCCACTTCTATGGACAACTG ACTGCTGTCCGACACCGTGAAATCCAGGCGCTGTATGTGGGATCCAAGATTC TGCTGACCCTGCCTGAGCAGCACCGGGCCAGCTATTCCCACTTGTCCTCTAA CCCCCTGTTCATGCTGGAGCAGCTGCTTATGAACATGAAGGTGGATTGGGC CACTGTGGCTGTGCAGACTCTCCAGCAGCTGCTGGTTGGACAGGAGATTGG CTTCACTATGGACGAGGTGGACTCACTGCTTTCCAGATACGCAGAGAAAGCC	266	LGLHSPIALDVLSEAFEESL VARDWSRALQLTEVYGRD VDDLSSIKDAVLSCAVAYD KEGWQYLFPVKDASLRSRL ALQFVDRWPLESCLEILAY CISDTAVQEGLKCELQRKL AELQVYQKILGLQSPPVWC DWQTLRSCCVEDPSTVMN MILEAQEYELCEEWGCLYP IPREHLISLHQKHLLHLLER RDHDKALQLLRRIPDPTMC LEVTEQSLDQHTSLATSHF LANYLTTHFYGQLTAVRHR EIQALYVGSKILLTLPEQHR ASYSHLSSNPLFMLEQLLM NMKVDWATVAVQTLQQLL VGQEIGFTMDEVDSLLSRY AEKALDFPYPQREKRSDSV IHLQEIVHQAADPETLPRSP

				CTGGACTTTCCATACCCTCAGAGGGAGAAACGATCAGATTCTGTGATTCACC		SAEFSPAAPPGISSIHSPSL
				TCCAAGAAATTGTCCACCAGGCTGCAGATCCCGAGACCCTCCCTAGATCACC		RERSFPPTQPSQEFVPPAT
				ATCAGCAGAGTTCTCTCCTGCTGCTCCTCCTGGTATCTCCAGTATACATTCCC		PPARHQWVPDETESICMV
				CTAGTCTAAGGGAAAGGAGTTTCCCACCAACCCAGCCCTCACAGGAATTTGT		CCREHFTMFNRRHHCRRC
				GCCCCCAGCGACACCCCCTGCCAGGCACCAGTGGGTACCGGATGAGACTG		GRLVCSSCSTKKMVVEGC
				AGAGTATCTGCATGGTCTGCTGCAGGGAGCACTTCACCATGTTTAACAGGCG		RENPARVCDQCYSYCNKD
				TCATCATTGTCGCCGCTGTGGCCGGCTAGTGTGCAGCTCCTGCTCCACTAA		VPEEPSEKPEALDSSKSES
				GAAAATGGTGGTTGAAGGCTGCAGAGAGAACCCTGCTCGTGTGTGTGATCA		PPYSFVVRVPKADEVEWIL
				GTGCTATAGTTACTGCAACAAAGATGTACCAGAGGAGCCTTCAGAAAAACCA		DLKEEENELVRSEFYYEQA
				GAAGCTCTAGACAGCTCCAAGAGTGAAAGCCCTCCATACTCGTTTGTGGTGA		PSASLCIAILNLHRDSIACG
				GAGTCCCCAAAGCAGATGAGGTGGAATGGATTTTGGATCTCAAAGAGGAGG		HQLIEHCCRLSKGLTNPEV
				AAAATGAGCTGGTGCGGAGTGAATTTTACTATGAGCAGGCCCCCAGCGCCT		DAGLLTDIMKQLLFSAKMM
				CCTTGTGCATTGCCATCCTGAATCTGCACCGGGACAGCATTGCCTGTGGTCA		FVKAGQSQDLALCDSYISK
				CCAGCTGATTGAGCACTGCTGCAGGCTCTCCAAGGGCCTCACCAACCCAGA		VDVLNILVAAAYRHVPSLD
				GGTGGATGCCGGGCTGCTCACGGACATCATGAAGCAGCTGCTGTTCAGCGC		QILQPAAVTRLRNQLLEAEY
				CAAGATGATGTTCGTCAAAGCCGGCCAGAGCCAAGACTTGGCTCTTTGTGAC		YQLGVEVSTKTGLDTTGA
				AGCTACATCAGCAAGGTAGATGTGCTGAATATTTTAGTTGCTGCTGCCTATC		WHAWGMACLKAGNLTAAR
				GCCACGTGCCATCTTTGGATCAGATCTTGCAGCCAGCTGCAGTAACCAGGCT		EKFSRCLKPPFDLNQLNHG
				AAGGAACCAGCTTTTGGAAGCCGAGTACTACCAACTGGGCGTTGAGGTCTC		SRLVQDVVEYLESTVRPFV
				CACAAAGACTGGGCTTGATACCACCGGGGCGTGGCATGCTTGGGGCATGGC		SLQDDDYFATLRELEATLR
				CTGCCTCAAAGCCGGGAACCTCACTGCTGCACGGGAGAAGTTCAGTCGCTG		TQSLSLAVIPEGKIMNNTYY
				TCTGAAGCCCCCATTTGACCTCAATCAGCTGAATCATGGCTCAAGGCTGGTG		QECLFYLHNYSTNLAIISFY
				CAGGATGTGGTTGAGTACCTAGAGTCCACAGTGAGGCCCTTTGTATCCTTGC		VRHSCLREALLHLLNKESP
				AAGATGACGATTACTTTGCCACCCTGAGGGAACTGGAAGCTACCCTTCGGAC		PEVFIEGIFQPSYKSGKLHT
				GCAGAGCCTTTCTCTGGCAGTGATTCCTGAAGGGAAAATCATGAACAACACC		LENLLESIDPTLESWGKYLI
				TACTACCAGGAATGCCTCTTCTACCTGCACAACTATAGCACCAACCTGGCCA		AACQHLQKKNYYHILYELQ
				TCATCAGCTTCTACGTGAGGCACAGCTGCCTGCGGGAAGCTCTTCTGCACCT		QFMKDQVRAAMTCIRFFSH
				TCTCAACAAGGAGAGTCCTCCAGAAGTTTTTATAGAAGGCATTTTCCAACCAA		KAKSYTELGEKLSWLLKAK
				GCTATAAAAGTGGGAAGCTACACACTTTGGAGAACTTGCTAGAATCCATTGA		DHLKIYLQETSRSSGRKKT
				TCCAACCTTGGAGAGCTGGGGAAAGTACTTGATTGCTGCCTGCCAACATTTA		TFFRKKMTAADVSRHMNTL
				CAGAAGAAGAACTACTACCACATTCTGTATGAGCTGCAGCAGTTTATGAAGG		QLQMEVTRFLHRCESAGT
				ACCAAGTTCGGGCCGCCATGACCTGTATTCGGTTCTTCAGTCACAAAGCAAA		SQITTLPLPTLFGNNHMKM
				GTCATATACAGAACTGGGAGAGAAGCTCTCATGGCTACTTAAGGCCAAGGAC		DVACKVMLGGKNVEDGFGI
				CACCTGAAGATCTACCTCCAAGAAACATCCCGCAGCTCTGGAAGGAAGAAAA		AFRVLQDFQLDAAMTYCRA
				CCACATTCTTCAGAAAGAAGATGACTGCAGCTGATGTGTCAAGGCACATGAA		ARQLVEKEKYSEIQQLLKC
				CACACTTCAGCTGCAGATGGAAGTGACCAGGTTCTTGCATCGGTGCGAAAGT		VSESGMAAKSDGDTILLNC
				GCTGGGACCTCTCAAATCACCACTTTGCCTCTGCCAACCCTGTTTGGAAATA		LEAFKRIPPQELEGLIQAIHN
				ACCACATGAAAATGGATGTTGCCTGCAAGGTCATGCTGGGAGGGAAAAATGT		DDNKVRAYLICCKLRSAYLI
				AGAAGATGGTTTTGGAATTGCTTTCCGTGTTCTGCAGGACTTCCAGCTGGAT		AVKQEHSRATALVQQVQQ

				GCTGCCATGACCTACTGCAGAGCTGCCCGCCAGTTGGTGGAGAAAGAGAAG TACAGTGAGATCCAGCAACTGCTCAAATGTGTCAGTGAGTCAGGCATGGCAG CCAAAAGTGACGGGGACACCATCCTCCTCAACTGCCTGGAAGCGTTCAAGA GAATTCCGCCCCAGGAGCTGGAGGGCCTGATCCAGGCAATACACAATGATG ACAACAAGGTTCGGGCCTACCTGATATGTTGCAAACTGCGTTCTGCCTACTT GATTGCTGTGAAGCAAGAACACTCACGGGCCACAGCCCTTGTCCAGCAGGT GCAGCAGGCCGCCAAGAGCAGCGGGGATGCAGTAGTGCAAGACATCTGTG CCCAGTGGCTTCTGACAAGCCACCCCCGGGGTGCCCATGGCCCAGGCTCC AGGAAGTGA		AAKSSGDAVVQDICAQWLL TSHPRGAHGPGSRK*
Shigella ospC1	3	prey67279	66	CTCCCTCTCTGCCTAGCTGGCTTTCTGTAAATAATTATTTGTGTCATAGCTTA CAGCTTTTTAAACATTTTCACTTTTATTATTTCATTTAATTTTCACACCAGCCCC GAAAAGTGTTTTTTCCACTTTACAAATTAAGATGCAGAAGCTCAGCAATANNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNGGGGAAGCTCAGCAA TATTAAATGTCTGGGCCAATTACGTAATCAGTAAGC	267	LPLCLAGFL*IIICVIAYSFLNI FTFIISFNFHTSPEKCFFHFT N*DAEAQQXXXXXXXXXX XXXXXXXXXXXXXXXXXX GEAQQY*MSGPIT*SVS
Shigella ospC1	3	prey67280	67	AATTTCCACCTCCCAAGGGAAGTTTATGTATTTTTCTAGGCCCTTTTCTATGT CTTTACATCTCTGTCTCACACACACACACGTATACACACACACAGTTTATTTTT AATAAAATAGGATTATACCACACACATCCTGTCACTTGCTTTTTTGCTTAAGA GTATATCTAAGAGAATCCTTTGTGTCAGTGAAGCTGGAGCTACCTCATTCTTT TAACTGGCTGCGTGGCGTTCCATTGAGTGTCTGTCATCATGTGTTTAGCCGA GTGGATGGATAGTCTGCTTGTTTTTAGTTTNTGC	268	NFHLPREVYVFF*ALFYVFT SLSHTHTRIHTHSLFLIK*DY TTHILSLAFLLKSISKRILCVS EAGATSFF*LAAWRSIECLS SCV*PSGWIVCLFLVX
Shigella ospC1	3	prey49194	68	CAACCCCGTGCCCCTCTATGCGCCAAATCTCAGCCCGCCTGCGGACAGCAG GATCCACGTGCCGGCCAGTGGGTACTGCTGCCTGGAGTGTGGAGACGCATT TGCCTTAGAGAAGAGCCTGAGCCAGCACTATGGCCGGCGGAGCGTCCACAT TGAGGTACTGTGCACACTGTGCTCCAAGACGCTGCTCTTCTTCAACAAGTGC AGCCTGCTCCGGCACGCCCGTGACCACAAGAGCAAGGGGCTCGTCATGCA GTGTTCCCAGCTGCTGGTGAAGCCTATCTCTGCGGACCAAATGTTCGTGTCG GCCCCTGTGAACTCCACGGCACCAGCAGCCCCAGCCCCTTCATCCTCTCCC AAACATGGCCTCACTTCGGGCAGTGCCAGTCCCCCTCCTCCAGCCTTGCCA CTCTACCCAGACCCTGTGAGGCTCATCCGGTACTCAATCAAGTGTCTTGAAT GTCACAAGCAGATGCGGGACTACATGGTCCTGGCTGCACATTTCCAGAGGA CAACAGAGGAGACAGAGGGGCTGACCTGCCAGGTATGCCAGATGCTGCTGC CCAACCAGTGCAGTTTCTGTGCCCACCAGCGGATTCATGCACACAAGTCCCC CTACTGCTGCCCGGAGTGTGGGGTCCTCTGCCGCTCTGCCTACTTCCAGAC CCATGTAAAGGAGAATTGCCTGCACTATGCCCGCAAGGTGGGCTACAGGTG CATCCACTGTGGTGTCGTCCACCTGACCTTGGCCTTGCTGAAAAGCCACATC CAGGAGCGACACTGCCAGGTTTTCCACAAATGTGCATTCTGCCCCATGGCCT TCAAGACTGCCAGCAGCACTGCAGACCACAGTGCCACCCAGCACCCCACCC AGCCCCACAGACCCTCCCAGCTCATTTATAAGTGCTCCTGTGAAATGGTCTT	269	NPVPLYAPNLSPPADSRIH VPASGYCCLECGDAFALEK SLSQHYGRRSVHIEVLCTL CSKTLLFFNKCSLLRHARD HKSKGLVMQCSQLLVKPIS ADQMFVSAPVNSTAPAAPA PSSSPKHGLTSGSASPPPP ALPLYPDPVRLIRYSIKCLE CHKQMRDYMVLAAHFQRT TEETEGLTCQVCQMLLPNQ CSFCAHQRIHAHKSPYCCP ECGVLCRSAYFQTHVKEN CLHYARKVGYRCIHCGVVH LTLALLKSHIQERHCQVFHK CAFCPMAFKTASSTADHSA TQHPTQPHRPSQLIYKCSC EMVFNKKRHIQQHFYQNVS KTQVGVFKCPECPLLFVQK

				CAACAAGAAGAGGCACATTCAGCAGCATTTTTACCAGAATGTCAGCAAGACG CAGGTGGGCGTCTTCAAGTGCCCTGAGTGCCCACTCTTGTTCGTGCAGAAG CCGGAGTTGATGCAACACGTCAAGAGCACCCACGGTGTTCCCCGAAATGTG GACGAGCTGTCAAACCTCCAGTCTTCAGCGGACACATCCTCAAGCCGCCCT GGCTCTCGAGTTCCCACTGAGCCACCAGCCACTAGTGTGGCTGCTCGGAGC AGCTCCCTGCCTTCTGGCCGCTGGGGTAGGCCTGAAGCCCACCGCAGGGT GGAAGCCAGGCCGCGGCTGAGGAACACTGGCTGGACCTGCCAGGAGTGCC AGGAGTGGGTTCCAGATCGGGAGAGCTACGTGTCCCACATGAAAAAGAGCC ACGGTCGGACATTGAAGCGGTACCCATGCCGGCAGTGTGAACAGTCCTTCC ACACCCCCAACAGCCTGCGCAAACACATCCGCAACAACCATGACACAGTAAA GAAGTTCTACACCTGCGGGTACTGCACAGAGGACAGCCCCAGCTTTCCTCG GCCCTCCCTTCTGGAGAGCCACATCAGCCTTATGCATGGCATCAGAAACCCT GATTTGAGCCAGACGTCCAAAGTGAAACCTCCGGGTGGACATTCCCCTCAG GTGAACCATCTGAAAAGACCAGTCAGTGGAGTGGGGGACGCTCCAGGCACC AGCAATGGCGCAACTGTCTCTTCCACCAAAAGGCACAAGTCCCTTTTTCAGT GCGCGAAATGTAGTTTTGCCACAGACTCGGGGCTCGAGTTTCAGAGCCACA TACCTCAGCACCAGGTGGACAGCTCCACAGCCCAATGTCTCCTCTGTGGTTT GTGCTACACCTCTGCCAGCTCCCTCAGCCGCCACCTCTTCATTGTCCACAAG GTGAGAGACCAGGAGGAGGAGGAGGAAGAGGAGGCGGCGGCAGCGGAGA TGGCAGTGGAGGTGGCAGAGCCAGAGGAGGGCTCCGGGGAGGAGGTGCC CATGGAGACTAGAGAGAATGGACTGGAAGAATGTGCCGGTGAGCCTTTGTC AGCTGACCCAGAGGCGAGGAGATTGCTGGGCCCGGCCCCTGAGGACGATG GTGGCCACAATGATCACAGTCAACCACAGGCCTCTCAGGACCAGGACAGCC ACACACTGTCCCCTCAGGTGTGA		PELMQHVKSTHGVPRNVD ELSNLQSSADTSSSRPGSR VPTEPPATSVAARSSSLPS GRWGRPEAHRRVEARPRL RNTGWTCQECQEWVPDR ESYVSHMKKSHGRTLKRY PCRQCEQSFHTPNSLRKHI RNNHDTVKKFYTCGYCTE DSPSFPRPSLLESHISLMH GIRNPDLSQTSKVKPPGGH SPQVNHLKRPVSGVGDAP GTSNGATVSSTKRHKSLFQ CAKCSFATDSGLEFQSHIP QHQVDSSTAQCLLCGLCYT SASSLSRHLFIVHKVRDQE EEEEEEAAAAEMAVEVAEP EEGSGEEVPMETRENGLE ECAGEPLSADPEARRLLGP APEDDGGHNDHSQPQASQ DQDSHTLSPQV*
Shigella ospC1	3	prey67287	69	GAACACTCCTCTAGCTTAGTTATGCTGTTCTTTTAAGTTTGTCTTTGAGTTGG GAAAGTAGACCTATTTGGCTTGGCTTAAGGGCTAAATGTCTCCTCTTCACTTG GTCTTCTAATCCTCAGTCCTTCCTGGCTATGTGGCATCATGTCTTTAAAGCAG GGAGAGTAAAGTATCAATATTTTAAGAAGGAACATTCTTCCCACTTACGTTTT CTATTCTTCTTTCTTTTGAGCCCTTTCTAGAAAGAGTAATGCTCTAGCCTTCAA CCAGAAATGAAAAGTCTATG	270	EHSSSLVMLFF*VCL*VGKV DLFGLA*GLNVSSSLGLLILS PSWLCGIMSLKQGE*SINIL RRNILPTYVFYSSFF*ALSR KSNALAFNQK*KVY
Shigella ospC1	3	prey19931	70	GGTGCACCAAGTGACAGACCTTTCTAGAAATGCCCAGCTGTTCAAGCGCTCT TTGCTGGAGATGGCAACGTTCTGA	271	VHQVTDLSRNAQLFKRSLL EMATF*
Shigella ospC1	3	prey67290	71	GGGGGGGTGGGGATGGGGAGGTAATAACNNNATNTTCTTTTGGTANTNATA CAGTGTGGNANTCTCNTNTGAANNNTTCTATNGACNANAAATATCTTTTTTTT NTCTTATCTTTCTNTTGTCTTCTGTGGGAGANGGCTGCTNTNTTTTTTANNGN CTTTGTNTATTTTTCNTATTAGCAGAATATCAGCNNNNCTGNTNCTNCNATAT TTTATGANATANNTGCTTNTAANCNTNTANAATCTGATTAATATTTATNNACTT NTTTTACATCATATAGANNATATCTTT	272	GGVGMGR**XXXLLVXIQC GXLX*XXLXTXNIFFXSYLS XVFCGRXLLXFLXXLXIFXIS RISAXLXLXYFMXXXLXXXX NLINIYXLXLHHIXXIF
Shigella	3	prey67291	72	TTTGAAGGGNTCNTANNAACATAGGANAATGTGGCTATAGTTTGGAACCTNC	273	FEGXXXT*XNVAIVWNLLHI

ospC1				TACATATTTGTTGAATGGCTTTGACANACTTGCTGATAGTGATATGAACATTANNGTCCAAGCTGAGGTGGTCTCAAATGGAGATGAGGAACTTGTTGGGAACTGAAGNACAGGTGACTCTTGTTATGTTTTANCCAAGACCACTGTCNTCATTTTGCCTNTGCCCTANANATTTNTGGAACTTTNACNTTGAGANANATGATNCANGATCTTGGNNGANGANNTNNNTAANNGNNNTATATTNN		C*MALTXLLIVI*TLXSKLRWSQMEMRNLLGTEXQVTLVMFXPRPLSSFCLCPXXXWNFXXEXXDXXSWXXXXXXXXYX
Shigella ospC1	3	prey67294	73	GCACAAGCCGTCATACCATACCAGGCAGTAAAAATTTACTCCTTAGTTTTCTTCTANAAATAGATTAAGTCTGTGATCCATTTTGGGTTAATTTTTCTGTGATGTATACTATTGTTTGAGGTTAATTTTTTTCTAGTTTTAAAATTTTCATCCAGTTGTTCCAGCNTCNCTTGTTGAGAAAATTGTTNTTCCCATTAANATTACTTTGGATACCTNGNGTGANGNNTATATGNGGNCTATANNGTGTNGNGNAACNCGACGCTGCGCAGNGTGGCNTANCGTCGTAAGNNANGTAGNGNANAGNGCCGNGAGA	274	AQAVIPYQAVKIYSLVFFXK*IKSVIHFGLIFL*CILLFEVNFFLVLKFSSSCSSXXC*ENCXSH*XYFGYLX*XXYXXYXVXXNXTLRXVAXRRKXXXXXXRE
Shigella ospC1	3	prey67296	74	AGAGTGGGGATGGGCTGGGCCTCTGTTCGTCCGTCCGACCCCCCTCATGTGTGCTGCCCCAAACCTCGCCGCTCCCTAGTTTGGTATTCTGTGTCCGGCCTGGGGTAGTAGCTGGACACCAGACTCAATCTTGGGCTCCAGTTCCCGACTTTTCGCCTCCTCTGGGTCTGTCCTGGGGTCAGTAATTAACCCGGGTCCCAGGGGTGTCGTCTTTTCCCTCCAGGGTGGGGCGCTGCCTGTACATGCCAGGGATCTTTTGCAGGGCTTTTCATCCANATTTGCTTCAGGG	275	RVGMGWASVRPSDPPHVCCPKPRRSLVWYSVSGLG**LDTRLNLGLQFPTFRLLWVCPGVSN*PGSQGCRLFPPGWGAACTCQGSFAGLFIXICFR
Shigella ospC1	3	prey67299	75	CCTCCTCCTCCAACACACGTGCACACAGTGTCTGCCCAATGCCTACTTTTTTTTTTTAAANGAAANTTTNANTTNGNAANTANAANNNGGNTAAAANGNCNTNNNCNTNTANCCTTTTNNNGTTTTTTTTNNTTTTNTTTTTTTNGNTAANNNANNNGTTTTTNAAAAAGGTNNAAAAAAATNTTNACANTTTTNGGGGNTAANCTTTTAATTTAAAACTTNGNCCCCTTAAATTANCCACCNCAANNTANCAAATTTTNAAGGTTTTNAAAAAANNGTTTGGGA	276	PPPPTHVHTVSAQCLLFFFKXXFXXXXXXXXKXXXXXXFXXFFXFXFFX*XXXFXKRXKKXXTXXGXXLLI*NXXPLNXPPQXXKFXRFXKXXLG
Shigella ospC1	3	prey4637	76	AGCAGAAGGATGATAAAGAACCGCAGCCAGTGAAGAAGACAGTGACAGGAACAGATGCAGACCTTCGTCGCCTTTCCCTGAAAAATGCCAAGCAACTTCTACGTAAATTTGGTGTGCCTGAGGAAGAGATTAAAAAGTTGTCCCGCTGGGAAGTGATTGATGTGGTGCGCACAATGTCAACAGAACAGGCTCGTTCTGGAGAGGGGCCCATGAGTAAATTTGCCCGTGGATCAAGGTTTTCTGTGGCTGAGCATCAAGAGCGTTACAAAGAGGAATGTCAGCGCATCTTTGACCTACAGAACAAGGTTCTGTCATCAACTGAAGTCTTATCAACTGACACAGACAGCAGCTCAGCTGAAGATAGTGACTTTGAAGAAATGGGAAAGAACATTGAGAACATGTTGCAGAACAAGAAAACCAGCTCTCAGCTTTCACGTGAACGGGAGGAACAGGAGCGGAAGGAACTACAGCGAATGCTACTGGCAGCAGGCTCAGCAGCATCCGGAAACAATCACAGAGATGATGACACAGCTTCCGTGACTAGCCTTAACTCTTCTGCCACTGGACGCTGTCTCAAGATTTATCGCACGTTTCGAGATGAAGAGGGGAAAGAGTATGTTCGCTGTGAGACAGTCCGAAAACCAGCTGTCATTGATGCCTATGTGCGCATACGGACTACAAAAGATGAGGAATTCATTCGAAAATTTGCCCTTTTTGATGAACAACATCGGGAAGAGATGCGAAAAGAACGGCGGAGGATTCAAGAGCAACTGAGGCGGCTTAAGAGGAACCAGGAAAAGGAGAAGCTTAAGGGTCCTCCTGAGAAG	277	QKDDKEPQPVKKTVTGTDADLRRLSLKNAKQLLRKFGVPEEEIKKLSRWEVIDVVRTMSTEQARSGEGPMSKFARGSRFSVAEHQERYKEECQRIFDLQNKVLSSTEVLSTDTDSSSAEDSDFEEMGKNIENMLQNKKTSSQLSREREEQERKELQRMLLAAGSAASGNNHRDDDTASVTSLNSSATGRCLKIYRTFRDEEGKEYVRCETVRKPAVIDAYVRIRTTKDEEFIRKFALFDEQHREEMRKERRRIQEQLRRLKRNQEKEKLKGPPEKKPKKMKERPDLKLKCGACGAIGHMRT

				AAGCCCAAGAAAATGAAGGAGCGTCCTGACCTAAAACTGAAATGTGGGGCAT GTGGTGCCATTGGACACATGAGGACTAACAAATTCTGCCCCCTCTATTATCA AACAAATGCGCCACCTTCCAACCCTGTTGCCATGACAGAAGAACAGGAGGA GGAGTTGGAAAAGACAGTCATTCATAATGATAATGAAGAACTTATCAAGGTTG AAGGGACCAAAATTGTCTTGGGGAAACAGCTAATTGAGAGTGCGGATGAGG TTCGCAGAAAATCTCTGGTTCTCAAGTTTCCTAAACAGCAGCTTCCTCCAAAG AAGAAACGGCGAGTTGGAACCACTGTTCACTGTGACTATTTGAATAGACCTC ATAAGTCCATCCACCGGCGCCGCACAGACCCTATGGTGACGCTGTCGTCCA TCTTGGAGTCTATCATCAATGACATGAGAGATCTTCCAAATACATACCCTTTC CACACTCCAGTCAATGCAAAGGTTGTAAAGGACTACTACAAAATCATCACTC GGCCAATGGACCTACAAACACTCCGCGAAAACGTGCGTAAACGCCTCTACC CATCTCGGGAAGAGTTCAGAGAGCATCTGGAGCTAATTGTGAAAAATAGTGC AACCTACAATGGGCCAAAACACTCATTGACTCAGATCTCTCAATCCATGCTG GATCTCTGTGATGAAAAACTCAAAGAGAAAGAAGACAAATTAGCTCGCTTAG AGAAAGCTATCAACCCCTTGCTGGATGATGATGACCAAGTGGCGTTTTCTTT CATTCTGGACAACATTGTCACCCAGAAAATGATGGCAGTTCCAGATTCTTGG CCATTTCATCACCCAGTTAATAAGAAATTTGTTCCAGATTATTACAAAGTGATT GTCAATCCAATGGATTTAGAGACCATACGTAAGAACATCTCCAAGCACAAGT ATCAGAGTCGGGAGAGCTTTCTGGATGATGTAAACCTTATTCTGGCCAACAG TGTTAAGTATAATGGACCTGAGAGTCAGTATACTAAGACTGCCCAGGAGATT GTGAACGTCTGTTACCAGACATTGACTGAGTATGATGAACATTTGACTCAACT TGAGAAGGATATTTGTACTGCTAAAGAAGCAGCTTTGGAGGAAGCAGAATTA GAAAGCCTGGACCCAATGACCCCAGGGCCCTACACGCCTCAGCCTCCTGAT TTGTATGATACCAACACATCCCTCAGTATGTCTCGAGATGCCTCTGTATTTCA AGATGAGAGCAATATGTCTGTCTTGGATATTCCCAGTGCCACTCCAGAAAAG CAGGTAACACAGGAAGGTGAAGATGGAGATGGTGATCTTGCAGATGAAGAG GAAGGAACTGTACAACAGCCTCAAGCCAGTGTCCTGTATGAGGATTTGCTTA TGTCTGAAGGAGAAGATGATGAGGAAGATGCTGGGAGTGATGAAGAAGGAG ACAATCCTTTCTCTGCTATCCAGCTGAGTGAAAGTGGAAGTGACTCTGATGT GGGATCTGGTGGAATAAGACCCAAACAACCCCGCATGCTTCAGGAGAACAC AAGGATGGACATGGAAAATGAAGAAAGCATGATGTCCTATGAGGGAGACGG TGGGGAGGCTTCCCATGGTTTGGAGGATAGCAACATCAGTTATGGGAGCTAT GAGGAGCCTGATCCCAAGTCGAACACCCAAGACACAAGCTTCAGCAGCATC GGTGGGTATGAGGTATCAGAGGAGGAAGAAGATGAGGAGGAGGAAGAGCA GCGCTCTGGGCCGAGCGTACTAAGCCAGGTCCACCTGTCAGAGGACGAGG AGGACAGTGAGGATTTCCACTCCATTGCTGGGGACAGTGACTTGGACTCTGA TGAATGA		NKFCPLYYQTNAPPSNPVA MTEEQEEELEKTVIHNDNE ELIKVEGTKIVLGKQLIESAD EVRRKSLVLKFPKQQLPPK KKRRVGTTVHCDYLNRPH KSIHRRRTDPMVTLSSILESI INDMRDLPNTYPFHTPVNA KVVKDYYKIITRPMDLQTLR ENVRKRLYPSREEFREHLE LIVKNSATYNGPKHSLTQIS QSMLDLCDEKLKEKEDKLA RLEKAINPLLDDDDQVAFSF ILDNIVTQKMMAVPDSWPF HHPVNKKFVPDYYKVIVNP MDLETIRKNISKHKYQSRES FLDDVNLILANSVKYNGPES QYTKTAQEIVNVCYQTLTE YDEHLTQLEKDICTAKEAAL EEAELESLDPMTPGPYTPQ PPDLYDTNTSLSMSRDASV FQDESNMSVLDIPSATPEK QVTQEGEDGDGDLADEEE GTVQQPQASVLYEDLLMSE GEDDEEDAGSDEEGDNPF SAIQLSESGSDSDVGSGGI RPKQPRMLQENTRMDMEN EESMMSYEGDGGEASHGL EDSNISYGSYEEPDPKSNT QDTSFSSIGGYEVSEEEED EEEEEQRSGPSVLSQVHLS EDEEDSEDFHSIAGDSDLD SDE*
Shigella ospC1	3	prey67316	77	CCACTCTACTCCACAAGGCTCATTCTAACTTCCCCCCTTGCTTATTTGTAACT TTTTTCTCTGAGAGTGAGACCCCAACTTTCATTATCTACAACATATCTATCTAT	278	PLYSTRLILTSPLAYL*LFSL RVRPQLSLSTTYLSIYYTCS

				TTATTATACTTGTAGTTTCAAAATTACTGAGAAACAAATTTACTACCTAGAATACTGTGTTAATATACAATTTTCTTTAGTTTTACAGTATCCAGTCAAAAGGCTGTCTTCCAAAATTGCTTAGGTCAGCTCCTTCTCCATGCAACTCTTTCAGTGAGGCTGNATCATGCGTTTGTAATATTGTTAGAT		FKITEKQIYYLEYCVNIQFSLVLQYPVKRLSSKIA*VSSFSMQLFQ*GXIMRL*YC*
Shigella ospC1	3	prey67318	78	CCACCGCACCTGACCTTAGTTTTTTTCTGACGTGGTCCTCTTCTTTTATCTCTAAGACTTATGATTGCTAAGACAACAAAAGATACCATCGTTACTGGCCAACCTTGGAATTTGGTCTTGGGAAATGGAGGCCTGTAGTTTGTAACCCATAAGAAGAGACTGAAGGGGCCTAAGTGCAGATGAGAATCCCTGGTGATAGAACAGACAAGAACTGGAGATCAATGCCAATAGTTTGTGATGAACGTCTTGGGGTTCCTGTGTGATCAACCTGTTGGGATTTCTGTATT	279	PPHLTLVFF*RGPLLLSLRLMIAKTTKDTIVTGQPWNLVLGNGGL*FVTHKKRLKGPKCR*ESLVIEQTRTGDQCQ*FVMNVLGFLCDQPVGISV
Shigella ospC1	3	prey7144	79	GGAAGCCAGAAAAGCCCACCAACTCTGGCTTTCAGTGGAGGCATTAAAGTACAGCATGAAGACCTCATCTGCAGAAACACCTACTATCCCGCTGGGTAGTGCAGTTGAGGCCATCAAAGCCAACTGTTCTGATAATGAATTCACCCAAGCTTTAACCGCAGCTATCCCTCCAGAGTCCCTGACCCGTGGGGTGTACAGTGAAGAGACCCTTAGAGCCCGTTTCTATGCTGTTCAAAAACTGGCCCGAAGGGTAGCAATGATTGATGAAACCAGAAATAGCTTGTACCAGTACTTCCTCTCCTACCTACAGTCCCTGCTCCTATTCCCACCTCAGCAACTGAAGCCGCCCCCAGAGCTCTGCCCTGAGGATATAAACACATTTAAATTACTGTCATATGCTTCCTATTGCATTGAGCATGGTGATCTGGAGCTAGCAGCAAAGTTTGTCAATCAGCTGAAGGGGGAATCCAGACGAGTGGCACAGGACTGGCTGAAGGAAGCCCGAATGACCCTAGAAACGAAACAGATAGTGGAAATCCTGACAGCATATGCCAGCGCCGTAGGAATAGGAACCACTCAGGTGCAGCCAGAGTGA	280	EARKAHQLWLSVEALKYSMKTSSAETPTIPLGSAVEAIKANCSDNEFTQALTAAIPPESLTRGVYSEETLRARFYAVQKLARRVAMIDETRNSLYQYFLSYLQSLLLFPPQQLKPPPELCPEDINTFKLLSYASYCIEHGDLELAAKFVNQLKGESRRVAQDWLKEARMTLETKQIVEILTAYASAVGIGTTQVQPE*
Shigella ospC1	3	prey67328	80	ATGAAATCCCAATGGTGTAGACCAGTGGCGATGGATCTAGGAGTTTACCAACTGAGACATTTTTCAATTTCTTTCTTGTCATCCTTGCTGGGGACTGAAAACGCTTCTGTGAGACTTGATAATAGCTCCTCTGGTGCAAGTGTGGTAGCTATTGACAACAAAATCGAGCAAGCTATGGATCTAGTGAAAAGCCATTTGATGTATGCGGTCAGAGAAGAAGTGGAGGTCCTCAAAGAGCAAATCAAAGAACTAATAGAGAAAAATTCCCAGCTGGAGCAGGAGAACAATCTGCTGAAGACACTGGCCAGTCCTGAGCAGCTTGCCCAGTTTCAGGCCCAGCTGCAGACTGGCTCCCCCCCTGCCACCACCCAGCCACAGGGCACCACACAGCCCCCCGCCCAGCCAGCATCGCAGGGCTCAGGACCAACCGCATAG	281	MKSQWCRPVAMDLGVYQLRHFSISFLSSLLGTENASVRLDNSSSGASVVAIDNKIEQAMDLVKSHLMYAVREEVEVLKEQIKELIEKNSQLEQENNLLKTLASPEQLAQFQAQLQTGSPPATTQPQGTTQPPAQPASQGSGPTA*
Shigella ospC1	3	prey37430	81	GTGGGAACAAGAGCTATACAATAACTTTGTATATAATAGTCCTAGAGGATATTTTCATACCTTTGCTGGAGATACTTGTCAAGTTGCTCTTAATTTTGCCAATGAAGAAGAAGCAAAAAAATTTCGAAAAGCAGTTACAGACCTTTTGGGCCGTCGACAAAGGAAATCTGAGAAAAGACGAGATCCCCCAAATGGTCCTAATCTACCCATGGCTACAGTTGATATAAAAAATCCAGAAATCACAACAAATAGATTTTATGGTCCACAAGTCAACAACATCTCCCATACCAAAGAAAAGAAGAAGGGAAAAGCTAAAAAGAAGAGATTAACCAAGGGAGATATAGGAACACCAAGCAATTTCCAGCACATTGGACATGTTGGTTGGGATCCAAATACAGGCTCTGATCTGAATAATTTGGA	282	WEQELYNNFVYNSPRGYFHTFAGDTCQVALNFANEEEAKKFRKAVTDLLGRRQRKSEKRRDPPNGPNLPMATVDIKNPEITTNRFYGPQVNNISHTKEKKKGKAKKKRLTKGDIGTPSNFQHIGHVGWDPNTGSDLNNLDPELKNLFDMCG

				TCCAGAATTGAAGAATCTTTTTGATATGTGTGGAATCTTAGAGGCACAACTTAAAGAAAGAGAAACATTAAAAGTTATATATGACTTTATTGAAAAAACAGGAGGTGTTGAAGCTGTTAAAAATGAACTGCGGAGGCAAGCACCACCACCTCCACCACCATCAAGGGGAGGGCCACCTCCTCCTCCTCCCCCTCCACATAGCTCGGGTCCTCCTCCTCCTCCTGCTAGGGGAAGAGGCGCTCCTCCCCCACCACCTTCAAGAGCTCCCACAGCTGCACCTCCACCACCGCCTCCTTCCAGGCCAAGTGTAGAAGTCCCTCCACCACCGCCAAATAGGATGTACCCTCCTCCACCTCCAGCCCTTCCCTCCTCAGCACCTTCAGGGCCTCCACCACCACCTCCATCTGTGTTGGGGGTAGGGCCAGTGGCACCACCCCCACCGCCTCCACCTCCACCTCCTCCTGGGCCACCGCCCCCGCCTGGCCTGCCTTCTGATGGGGACCATCAGGTTCCAACTACTGCAGGAAACAAAGCAGCTCTTTTAGATCAAATTAGAGAGGGTGCTCAGCTAAAAAAAGTGGAGCAGAACAGTCGGCCAGTGTCCTGCTCTGGACGAGATGCACTGTTAGACCAGATACGACAGGGTATCCAACTAAAATCTGTGGCTGATGGCCAAGAGTCTACACCACCAACACCTGCACCCACTTCAGGAATTGTGGGTGCATTAATGGAAGTGATGCAGAAAAGGAGCAAAGCCATTCATTCTTCAGATGAAGATGAAGATGAAGATGATGAAGAAGATTTTGAGGATGATGATGAGTGGGAAGACTGA		ILEAQLKERETLKVIYDFIEKTGGVEAVKNELRRQAPPPPPPSRGGPPPPPPPPHSSGPPPPPARGRGAPPPPPSRAPTAAPPPPPPSRPSVEVPPPPPNRMYPPPPPALPSSAPSGPPPPPPSVLGVGPVAPPPPPPPPPPGPPPPPGLPSDGDHQVPTTAGNKAALLDQIREGAQLKKVEQNSRPVSCSGRDALLDQIRQGIQLKSVADGQESTPPTPAPTSGIVGALMEVMQKRSKAIHSSDEDEDEDDEEDFEDDDEWED*
Shigella ospC1	3	prey67351	82	ATTGCCTTCCATGTCTACTGTGATTCAGCTTTGGGAAGATATTTTCTGTTCCTTTTGCTGCTTTGACTCCCTGCCGCGCCCCCTTACTTACGCTTCAAATCTGCCTACCAGGTTTTCCATTTCCAGGCAGTCTTTTCTAATTTTTTCCACCTGGAAGAAACTTTCTTTTCTCTGAGTTCGTAATCTTATAATAAGTACCTATTTTTCTCTTCTTCTAGCGTATATAAAATGTATTATCTGACGTGTCAAGTGAGTTAATGCATTTAAAGAGCCTAGGAATGGTACCTAC	283	IAFHVYCDSALGRYFLFLLLL*LPAAPPLLTLQICLPGFPFPGSLF*FFPPGRNFLFSEFVIL**VPIFLFF*RI*NVLSDVSSELMHLKSLGMVP
Shigella ospC1	3	prey67353	83	GGAGAAGAGAGGGAGCAACTCGGTATTTGTCCACAAAAAGAGTATTATTCCAGAGGAAGAGTGTTATATAAATTGTGTTTTCCAATAAAAATAGTGATGTCTATCAGTTCAGTGTACATGGACCTTTGCAGTGAGTCAGAGATTTGGCCTAGGCCTGTGGGGGATATCCCTGGGAGAAACTGTCTTGTCAAAGGAAGTTAGCATTTGAGACGATGGCATGATCTTTGCCCACTTATCCCATCAAAAAGAGTTTTGAAAGGATAGCANGGAAGCATTGATATGANAGGCTACTCTCA	284	EKRGSNSVFVHKKSIIPEEECYINCVFQ*K**CLSVQCTWTFAVSQRFGLGLWGISLGETVLSKEVSI*DDGMIFAHLSHQKEF*KDSXEALI*XATL
Shigella ospC1	3	prey25185	84	GGCTGCCCTGCCTGATGACATCCGTCGGGAAGTTCTACAGAACCAGCTAGGCATTCGTCCACCAACCCGGACTGCCCCCTCCACAAATAGCTCAGCGCCTGCAGTGGTGGGGAATCCTGGTGTGACTGAAGTGAGCCCTGAGTTTCTGGCTGCCCTGCCTCCAGCCATTCAGGAGGAAGTACTGGCACAGCAGAGAGCTGAGCAGCAGCGACGAGAACTAGCACAGAATGCCAGCTCAGACACCCCTATGGACCCTGTGACCTTCATCCAGACTCTGCCCTCAGACCTGCGCCGTAGTGTCCTAGAGGATATGGAGGACAGTGTGTTAGCTGTGATGCCACCTGACATTGCAGCTGAGGCTCAAGCCCTGAGACGAGAGCAAGAAGCCCGGCAGCGACAGCTCATGCATGAGCGTCTGTTTGGGCACAGTAGCACCTCCGCACTCTCTGCTATTCTCCGAAGCCCGGCTTTCACCAGTCGCTTAAGTGGCAACCGTGGGGTCCAGTATACTC	285	AALPDDIRREVLQNQLGIRPPTRTAPSTNSSAPAVVGNPGVTEVSPEFLAALPPAIQEEVLAQQRAEQQRRELAQNASSDTPMDPVTFIQTLPSDLRRSVLEDMEDSVLAVMPPDIAAEAQALRREQEARQRQLMHERLFGHSSTSALSAILRSPAFTSRLSGNRGVQYTRLAVQRGGTFQMGGSSSHNR

				GCCTTGCTGTGCAGAGAGGTGGCACCTTCCAGATGGGGGTAGCAGCAGC		PSGSNVDTLLRLRGRLLLD
				CATAACAGGCCTTCTGGCAGTAATGTAGATACTCTCCTCCGCCTCCGAGGAC		HEALSCLLVLLFVDEPKLNT
				GGCTCCTTCTGGACCACGAAGCCCTTTCTTGTCTCTTGGTCCTACTTTTTGTG		SRLHRVLRNLCYHAQTRH
				GATGAGCCAAAGCTCAATACTAGCCGTCTACACCGAGTACTGAGAAATCTCT		WVIRSLLSILQRSSESELCIE
				GCTACCATGCCCAGACCCGCCACTGGGTCATCCGCAGTCTGCTCTCCATCTT		TPKLTTSEEKGKKSSKSCG
				GCAGCGCAGCAGTGAGAGTGAGCTATGCATTGAAACACCCAAACTCACTACA		SSSHENRPLDLLHKMESKS
				AGTGAGGAAAAGGGCAAAAAGTCGAGCAAGAGCTGTGGGTCAAGTAGCCAT		SNQLSWLSVSMDAALGCR
				GAGAACCGTCCCCTGGACCTGCTACACAAGATGGAGTCAAAGAGCTCCAAC		TNIFQIQRSGGRKHTEKHA
				CAGCTTTCCTGGCTCTCAGTATCCATGGATGCAGCCCTAGGCTGCAGGACTA		SGGSTVHIHPQAAPVVCRH
				ATATATTTCAGATCCAGCGTTCAGGGGGGCGTAAACATACCGAGAAGCATGC		VLDTLIQLAKVFPSHFTQQR
				AAGCGGTGGCTCCACCGTCCACATCCATCCCCAAGCTGCTCCTGTTGTCTG		TKETNCESDRERGNKACS
				CAGACACGTTTTGGATACACTCATTCAATTGGCCAAGGTATTTCCCAGCCACT		PCSSQSSSSGICTDFWDLL
				TCACACAGCAGCGGACCAAAGAAACAAACTGTGAGAGTGATCGGGAAAGGG		VKLDNMNVSRKGKNSVKS
				GCAATAAGGCCTGTAGCCCATGCTCCTCACAGTCCTCCAGCAGTGGCATTTG		VPVSAGGEGETSPYSLEAS
				CACAGACTTCTGGGACTTATTGGTAAAACTGGACAACATGAATGTCAGCCGG		PLGQLMNMLSHPVIRRSSL
				AAAGGCAAGAACTCCGTGAAGTCAGTGCCAGTGAGCGCTGGCGGTGAGGG		LTEKLLRLLSLISIALPENKV
				GGAAACCTCTCCATACAGCCTCGAGGCCTCTCCACTGGGGCAGCTCATGAA		SEAQANSGSGASSTTTATS
				CATGTTGTCACACCCAGTCATCCGCCGGAGCTCTCTCTTAACTGAGAAACTC		TTSTTTTTAASTTPTPPTAP
				CTCAGACTCCTTTCTCTCATCTCAATTGCTCTCCCAGAAAACAAGGTGTCAGA		TPVTSAPALVAATAISTIVVA
				AGCACAGGCTAATTCTGGCAGCGGTGCTTCCTCCACCACCACTGCCACCTC		ASTTVTTPTTATTTVSISPT
				AACCACATCTACCACCACCACCACTGCCGCCTCCACCACGCCCACACCCCC		TKGSKSPAKVSDGGSSST
				TACTGCACCCACCCCTGTCACTTCTGCTCCAGCCCTGGTTGCTGCCACGGCT		DFKMVSSGLTENQLQLSVE
				ATTTCCACCATTGTCGTAGCTGCTTCGACCACAGTGACTACCCCCACGACTG		VLTSHSCSEEGLEDAANVL
				CTACCACTACTGTTTCAATTTCTCCCACTACTAAGGGCAGCAAATCTCCAGCG		LQLSRGDSGTRDTVLKLLL
				AAGGTGAGTGATGGGGGCAGCAGCAGTACAGACTTTAAGATGGTGTCCTCT		NGARHLGYTLCKQIGTLLA
				GGCCTCACTGAAAACCAGCTACAGCTCTCTGTAGAGGTGTTGACATCCCACT		ELREYNLEQQRRAQCETLS
				CTTGTTCTGAGGAAGGCTTAGAGGATGCAGCCAACGTACTACTGCAGCTCTC		PDGLPEEQPQTTKLKGKM
				CCGGGGGGACTCTGGGACCCGGGACACTGTTCTCAAGCTGCTACTGAATGG		QSRFDMAENVVIVASQKRP
				AGCCCGCCATCTGGGTTATACCCTTTGTAAACAAATAGGTACCCTGCTGGCC		LGGRELQLPSMSMLTSKTS
				GAGCTGCGGGAATACAACCTCGAGCAGCAGCGGCGAGCCCAATGTGAAACC		TQKFFLRVLQVIIQLRDDTR
				CTCTCTCCTGATGGCCTGCCTGAGGAGCAGCCACAGACCACCAAGCTGAAG		RANKKAKQTGRLGSSGLG
				GGCAAAATGCAGAGCAGGTTTGACATGGCTGAGAATGTGGTAATTGTGGCAT		SASSIQAAVRQLEAEADAII
				CTCAGAAGCGACCTTTGGGTGGCCGGGAGCTCCAGCTGCCTTCTATGTCCA		QMVREGQRARRQQQAAT
				TGTTGACATCCAAGACATCTACCCAGAAGTTCTTCTTGAGGGTACTACAGGT		SESSQSEASVRREESPMD
				CATCATCCAGCTCCGGGACGACACGCGCCGGGCTAACAAGAAAGCCAAGCA		VDQPSPSAQDTQSIASDGT
				GACAGGCAGGCTAGGTTCCTCCGGTTTAGGCTCAGCTAGCAGCATCCAGGC		PQGEKEKEERPPELPLLSE
				AGCTGTTCGGCAGCTGGAGGCTGAGGCTGATGCCATTATACAAATGGTACG		QLSLDELWDMLGECLKELE
				TGAGGGTCAAAGGGCGCGGAGACAGCAACAAGCAGCAACGTCGGAGTCTA		ESHDQHAVLVLQPAVEAFF
				GCCAGTCAGAGGCGTCTGTCCGGAGGGAGGAATCACCCATGGATGTGGAC		LVHATERESKPPVRDTRES

				CAGCCATCTCCCAGTGCTCAAGATACTCAATCCATTGCCTCCGATGGAACCC CACAGGGGGAGAAGGAAAAGGAAGAAAGACCACCTGAGTTACCCCTGCTCA GCGAGCAGCTGAGTTTGGACGAGCTGTGGGACATGCTTGGGGAGTGTCTAA AGGAACTAGAGGAATCCCATGACCAGCATGCGGTGCTAGTGCTACAGCCTG CTGTCGAGGCCTTCTTTCTGGTCCATGCCACAGAGCGGGAGAGCAAGCCTC CTGTCCGAGACACCCGTGAGAGCCAGCTGGCACACATCAAGGACGAGCCTC CTCCACTCTCCCCTGCCCCCTTAACCCCAGCCACGCCTTCCTCCCTTGACCC ATTCTTCTCCCGGGAGCCCTCATCTATGCACATCTCCTCAAGCCTGCCCCCT GACACACAGAAGTTCCTTCGCTTTGCAGAGACTCACCGCACTGTGTTAAACC AGATCCTACGGCAGTCCACGACCCACCTTGCTGATGGCCTTTTGCTGTCCT GGTAGACTACATTCGTGTCCTCGACTTTGATGTCAAGCGCAAATATTTCCGC CAAGAGCTGGAGCGTTTAGATGAGGGGCTCCGGAAAGAAGACATGGCTGTG CATGTCCGTCGTGACCATGTGTTTGAAGACTCCTATCGTGAGCTGCATCGCA AATCCCCCGAAGAAATGAAGAATCGATTGTATATAGTATTTGAAGGAGAAGAA GGGCAGGATGCTGGCGGGCTCCTGCGGGAGTGGTATATGATCATCTCTCGA GAGATGTTTAACCCTATGTATGCCTTGTTCCGTACCTCACCTGGTGATCGAG TCACCTACACCATCAATCCATCTTCCCACTGCAACCCCAACCACCTCAGCTA CTTCAAGTTTGTCGGACGCATTGTGGCCAAAGCTGTATATGACAACCGTCTT CTGGAGTGCTACTTTACTCGATCCTTTTACAAACACATCTTGGGCAAGTCAGT CAGATATACAGATATGGAGAGTGAAGATTACCACTTCTACCAAGGTCTGGTTT ATCTGCTGGAAAATGATGTCTCCACACTAGGCTATGACCTCACCTTCAGCAC TGAGGTCCAAGAGTTTGGAGTTTGTGAAGTTCGTGACCTCAAACCCAATGGG GCCAACATCTTGGTAACAGAGGAGAATAAGAAGGAGTATGTACACCTGGTAT GCCAGATGAGAATGACAGGAGCCATCCGCAAGCAGTTGGCGGCTTTCTTAG AAGGCTTCTATGAGATCATTCCAAAGCGCCTCATTTCCATCTTCACTGAGCAG GAGTTAGAGCTGCTTATATCAGGACTGCCCACCATTGACATCGATGATCTGA AATCCAACACTGAATACCACAAGTACCAGTCCAACTCTATTCAGATCCAGTG GTTCTGGAGAGCATTGCGTTCTTTCGATCAAGCTGACCGTGCCAAGTTCCTC CAGTTTGTCACGGGTACTTCCAAGGTACCCCTGCAAGGCTTTGCTGCCCTCG AAGGCATGAATGGCATTCAGAAGTTTCAGATCCATCGAGATGACAGGTCCAC AGATCGCCTGCCTTCAGCTCACACATGTTTTAATCAGCTGGATCTGCCTGCC TATGAGAGCTTTGAGAAGTCCGCCACATGCTACTGTTGGCTATCCAGGAGTG CTCTGAAGGCTTTGGGCTGGCCTAATAAGGCCCTGCCCAACTCCGTGGGGT TTTTTTTACCATTGTTGGACCTGGGGAGGGGGGAGTTAAAAAAAGAACCAGA AAGAAATTGTCAAAAACCAATAAATGAAATCCACCAACTCACCGTGTGTGTCC CAGCTGCCCCATCTTCCCCAGCGCATACCTGTTCCTCTTCTCATTCTCTCCC CGCCGCCTGTTTCCTCACCTTCTCTCCCCTTTCCATGCCGTCCATGATCCCC ACCCCATGTGTTTTAAAAAGGCAGTAG		QLAHIKDEPPPLSPAPLTPA TPSSLDPFFSREPSSMHIS SSLPPDTQKFLRFAETHRT VLNQILRQSTTHLADGPFA VLVDYIRVLDFDVKRKYFR QELERLDEGLRKEDMAVH VRRDHVFEDSYRELHRKSP EEMKNRLYIVFEGEEGQDA GGLLREWYMIISREMFNPM YALFRTSPGDRVTYTINPSS HCNPNHLSYFKFVGRIVAK AVYDNRLLECYFTRSFYKHI LGKSVRYTDMESEDYHFY QGLVYLLENDVSTLGYDLT FSTEVQEFGVCEVRDLKPN GANILVTEENKKEYVHLVC QMRMTGAIRKQLAAFLEGF YEIIPKRLISIFTEQELELLIS GLPTIDIDDLKSNTEYHKYQ SNSIQIQWFWRALRSFDQA DRAKFLQFVTGTSKVPLQG FAALEGMNGIQKFQIHRDD RSTDRLPSAHTCFNQLDLP AYESFEKSATCYCWLSRSA LKALGWPNKALPNSVGFFL PLLDLGRGELKKEPERNCQ KPINEIHQLTVCVPAAPSSP AHTCSSSHSLPAACFLTFS PLSMPSMIPTPCVLKRQ*
Shigella	3	prey4411	85	CCGCAAATGTTCCCAGCACAATCGGCTGCGGGAATTTTTCTGCCCCGAGCA	286	RKCSQHNRLREFFCPEHS

ospC1				CAGCGAGTGCATCTGCCACATCTGCCTGGTGGAGCATAAGACCTGCTCTCC CGCGTCCCTGAGCCAGGCCAGCGCCGACCTGGAGGCCACCCTGAGGCACA AACTAACTGTCATGTACAGTCAGATCAACGGGGCGTCGAGAGCACTGGATG ATGTGAGAAACAGGCAGCAGGATGTGCGGATGACTGCAAACAGAAAGGTGG AGCAGCTACAACAAGAATACACGGAAATGAAGGCTCTCTTGGACGCCTCAGA GACCACCTCGACAAGGAAGATAAAGGAAGAGGAGAAGAGGGTCAACAGCAA GTTTGACACCATTTATCAGATTCTCCTCAAGAAGAAGAGTGAGATCCAGACCT TGAAGGAGGAGATTGAACAGAGCCTGACCAAGAGGGATGAGTTCGAGTTTC TGGAGAAAGCATCAAAACTGCGAGGAATCTCAACAAAGCCAGTCTACATCCC CGAGGTGGAACTGAACCACAAGCTGATAAAAGGCATCCACCAGAGCACCAT AGACCTCAAAAACGAGCTGAAGCAGTGCATCGGGCGGCTCCAGGAGCTCAC CCCCAGTTCAGGTGACCCTGGAGAGCATGACCCAGCGTCCACACACAAATC CACACGCCCTGTGAAGAAGGTCTCCAAAGAGGAAAAGAAATCCAAGAAACCT CCCCCTGTCCCTGCCTTACCCAGCAAGCTTCCCACGTTTGGAGCCCCGGAA CAGTTAGTGGATTTAAAACAAGCTGGCTTGGAGGCTGCAGCCAAAGCCACCA GCTCACATCCGAACTCAACATCTCTCAAGGCCAAGGTGCTGGAGACCTTCCT GGCCAAGTCCAGACCTGAGCTCCTGGAGTATTACATTAAAGTCATCCTGGAC TACAACACCGCCCACAACAAAGTGGCTCTGTCAGAGTGCTATACAGTAGCTT CTGTGGCTGAGATGCCTCAGAACTACCGGCCGCATCCCCAGAGGTTCACAT ACTGCTCTCAGGTGCTGGGCCTGCACTGCTACAAGAAGGGGATCCACTACT GGGAGGTGGAGCTGCAGAAGAACAACTTCTGTGGGGTAGGCATCTGCTACG GAAGCATGAACCGGCAGGGCCCAGAAAGCAGGCTCGGCCGCAACAGCGCC TCCTGGTGCGTGGAGTGGTTCAACACCAAGATCTCTGCCTGGCACAATAACG TGGAGAAAACCCTGCCCTCCACCAAGGCCACGCGGGTGGGCGTGCTTCTCA ACTGTGACCACGGCTTTGTCATCTTCTTCGCTGTTGCCGACAAGGTCCACCT GATGTATAAGTTCAGGGTGGACTTTACTGAGGCTTTGTACCCGGCTTTCTGG GTATTTTCTGCTGGTGCCACACTCTCCATCTGCTCCCCCAAGTAG		ECICHICLVEHKTCSPASLS QASADLEATLRHKLTVMYS QINGASRALDDVRNRQQD VRMTANRKVEQLQQEYTE MKALLDASETTSTRKIKEEE KRVNSKFDTIYQILLKKKSEI QTLKEEIEQSLTKRDEFEFL EKASKLRGISTKPVYIPEVE LNHKLIKGIHQSTIDLKNELK QCIGRLQELTPSSGDPGEH DPASTHKSTRPVKKVSKEE KKSKKPPPVPALPSKLPTF GAPEQLVDLKQAGLEAAAK ATSSHPNSTSLKAKVLETFL AKSRPELLEYYIKVILDYNT AHNKVALSECYTVASVAEM PQNYRPHPQRFTYCSQVL GLHCYKKGIHYWEVELQKN NFCGVGICYGSMNRQGPE SRLGRNSASWCVEWFNTK ISAWHNNVEKTLPSTKATR VGVLLNCDHGFVIFFAVAD KVHLMYKFRVDFTEALYPA FWVFSAGATLSICSPK*
Shigella ospC1	3	prey2686	86	ATGGAGCAGCTGGCCGACGTGACGCTGCGAAGGCTGCTGGATAATGAGGTC TTTGACCTCGACCCCGATCTGCAGGAGCCGAGCCAGATCACCAAGAGGGAC CTGGAAGCCAGAGCACAGAATGAGTTCTTCCGGGCTTTCTTCAGGTTGCCGA GGAAGGAGAAGCTGCACGCGGTTGTGGACTGTTCGCTCTGGACGCCGTTCA GTCGCTGTCACACCGCGGGGCGGATGTTCGCCTCTGACAGCTACATCTGCT TTGCCAGCAGAGAAGATGGCTGCTGTAAGATCATCCTGCCACTCAGAGAGG TGGTGAGCATCGAGAAGATGGAGGACACGAGCCTGCTGCCGCATCCCATCA TTGTCAGTATCAGAAGCAAGGTGGCCTTCCAGTTCATTGAGCTCCGGGACCG AGACAGCCTGGTGGAGGCGCTGCTTGCGAGGTTGAAGCAGGTCCACGCCA ACCACCCCGTGCACTACGACACCTCTGCGGATGATGACATGGCTTCACTCGT GTTTCATTCAACAAGCATGTGCAGTGACCACAGATTTGGGGATCTTGAAATG ATGTCTTCTCAAAATAGCGAGGAGAGTGAGAAAGAGAAGAGCCCGCTGATG	287	MEQLADVTLRRLLDNEVFD LDPDLQEPSQITKRDLEAR AQNEFFRAFFRLPRKEKLH AVVDCSLWTPFSRCHTAG RMFASDSYICFASREDGCC KIILPLREVVSIEKMEDTSLL PHPIIVSIRSKVAFQFIELRD RDSLVEALLARLKQVHANH PVHYDTSADDDMASLVFHS TSMCSDHRFGDLEMMSSQ NSEESEKEKSPLMHPDALV TAFQQSGSQSPDSRMSRE

				CACCCCGATGCCCTGGTCACCGCCTTCCAGCAGTCAGGCAGCCAGAGCCCT GACTCCCGAATGTCCAGAGAACAGATAAAAATAAGCCTGTGGAATGACCACT TTGTGGAATACGGCAGAACCGTGTGTATGTTTCGCACAGAGAAGATTCGGAA GCTCGTAGCCATGGGCATCCCTGAATCTTTGCGAGGGAGACTCTGGCTTCT CTTCTCAGATGCGGTGACGGATCTTGCCTCACACCCTGGTTACTACGGGAAT CTGGTGGAGGAGTCCCTGGGGAAATGCTGCCTGGTAACCGAGGAGATAGAA CGAGACCTGCACCGCTCCCTGCCAGAGCACCCCGCCTTCCAGAACGAAACG GGAATTGCTGCTTTGAGGAGAGTCTTGACGGCCTATGCCCACCGGAACCCC AAGATTGGATACTGCCAGTCCATGAACATCCTGACCTCCGTGCTGCTGCTGT ACACCAAGGAGGAGGAAGCCTTCTGGCTGTTGGTTGCTGTGTGTGAGCGGA TGCTGCCCGATTACTTCAACCACCGAGTGATCGGGGCACAAGTTGACCAGT CTGTCTTCGAGGAGCTCATCAAGGGTCATCTCCCAGAGCTGGCAGAGCACA TGAACGACCTCTCAGCCCTGGCGTCTGTCTCTCTCTCGTGGTTCCTGACCCT GTTCCTCAGCATCATGCCTCTAGAGAGTGCGGTGAATGTGGTAGACTGCTTC TTCTATGATGGCATCAAAGCCATCTTCCAGCTGGGACTGGCTGTGCTTGAGG CCAATGCTGAGGACCTGTGCAGCAGCAAGGATGATGGCCAGGCCTTGATGA TCCTCAGCAGGTTTCTAGATCACATTAAGAATGAGGACAGCCCAGGGCCCCC AGTTGGCAGCCACCATGCCTTTTTCTCCGACGACCAGGAGCCCTACCCTGT GACTGATATTTCGGACCTGATCCGGGATTCCTATGAGAAATTTGGAGACCAG TCTGTGGAGCAGATCGAGCACCTACGTTACAAGCACAGGATCAGGGTCCTC CAAGGCCACGAGGACACCACAAAGCAGAACGTGCTTCGAGTCGTTATCCCG GAAGTCTCAATTCTTCCTGAAGACCTAGAGGAGCTCTACGACTTATTCAAGA GAGAACATATGATGAGCTGTTACTGGGAGCAGCCCAGGCCCATGGCCTCAC GCCACGACCCCAGCCGGCCCTATGCTGAGCAGTACCGCATAGACGCCCGG CAGTTTGCACACCTGTTTCAGCTAGTCTCGCCCTGGACCTGCGGGGCCCAC ACGGAGATCCTCGCCGAAAGGACGTTCAGGCTCTTGGATGACAACATGGAC CAGCTCATCGAGTTCAAAGCGTTTGTGAGCTGCCTCGATATTATGTATAATG GAGAAATGAATGAGAAGATTAAACTATTATACAGGCTTCATATCCCTCCAGCA CTCACTGAAAATGACCGAGACAGCCAGTCGCCGTTGAGGAATCCTCTGTTGT CAACATCGAGACCCCTGGTTTTCGGGAAACCCAATGGTGATGCAGTTGATTA TCAGAAACAGCTGAAGCAGATGATTAAGGATTTAGCCAAAGAAAAAGATAAA ACTGAGAAAGAATTGCCCAAAATGAGCCAGAGAGAATTTATCCAGTTCTGTA AAACTCTGTACAGTATGTTCCATGAAGATCCAGAAGAAAATGATTTGTATCAA GCCATCGCCACAGTCACCACACTGCTGCTGCAGATCGGGGAGGTGGGGCA GCGAGGCAGCAGCTCTGGAAGCTGCTCCCAGGAGTGTGGGGAGGAGCTGC GGGCTTCAGCTCCTTCTCCTGAGGACTCGGTTTTTGCAGACACTGGGAAGAC GCCCCAGGACTCCCAGGCACTTCCAGAGGCGGCAGAAAGGGACTGGACTG TCTCCCTTGAACATATTTTAGCTTCACTTCTGACTGAACAGTCATTAGTCAACT TTTTTGAAAAGCCACTGGACATGAAATCCAAACTTGAAAATGCCAAGATCAAT		QIKISLWNDHFVEYGRTVC MFRTEKIRKLVAMGIPESLR GRLWLLFSDAVTDLASHPG YYGNLVEESLGKCCLVTEEI ERDLHRSLPEHPAFQNETG IAALRRVLTAYAHRNPKIGY CQSMNILTSVLLLYTKEEEA FWLLVAVCERMLPDYFNH RVIGAQVDQSVFEELIKGHL PELAEHMNDLSALASVSLS WFLTLFLSIMPLESAVNVVD CFFYDGIKAIFQLGLAVLEA NAEDLCSSKDDGQALMILS RFLDHIKNEDSPGPPVGSH HAFFSDDQEPYPVTDISDLI RDSYEKFGDQSVEQIEHLR YKHRIRVLQGHEDTTKQNV LRVVIPEVSILPEDLEELYDL FKREHMMSCYWEQPRPM ASRHDPSRPYAEQYRIDAR QFAHLFQLVSPWTCGAHT EILAERTFRLLDDNMDQLIE FKAFVSCLDIMYNGEMNEK IKLLYRLHIPPALTENDRDS QSPLRNPLLSTSRPLVFGK PNGDAVDYQKQLKQMIKDL AKEKDKTEKELPKMSQREF IQFCKTLYSMFHEDPEEND LYQAIATVTTLLLQIGEVGQ RGSSSGSCSQECGEELRA SAPSPEDSVFADTGKTPQD SQALPEAAERDWTVSLEHI LASLLTEQSLVNFFEKPLD MKSKLENAKINQYNLKTFE MSHQSQSELKLSNL*

				CAGTACAATCTCAAAACTTTTGAAATGAGCCACCAATCACAATCTGAACTTAAGCTGAGTAACTTGTAG		
Shigella ospC1	3	prey67368	87	TCTCCCAGACCCTCTGCAGGAACCGTACTACCAGCCACCCTACACGCTCGTTTTGGAGCTCACCGGCGTCCTCTTGCATCCTGAGTGGTCGCTGGCCACTGGCTGGAGGTTTAAGAAGCGCCCAGGCATCGAGACCTTGTTCCAGCAGCTTGCCCCTTTATATGAAATTGTCATCTTTACGTCAGAGACTGGCATGACTGCGTTTCCACTCATTGATAGTGTGGACCCCCATGGCTTCATCTCCTACCGCCTATTCCGGGACGCCACAAGATACATGGATGGACACCATGTAAAGGATATTTCATGTCTGAATCGGGACCCAGCTCGAGTAGTAGTTGTGGACTGCAAGAAGGAAGCCTTCCGCCTGCAGCCCTATAACGGCGTTGCCCTGCGGCCCTGGGACGGCAACTCTGATGACCGGGTCTTGTTGGATCTGTCTGCCTTCCTCAAGACCATTGCACTGAATGGTGTGGAGGACGTGCGAACCGTGCTGGAGCACTATGCCCTGGAGGATGACCCGCTGGCGGCTTTCAAACAGCGGCAAAGCCGGCTAGAGCAGGAGGAGCAGCAGCGCCTGGCCGAGCTCTCCAAGTCCAACAAGCAGAACCTCTTCCTTGGCTCCCTCACCAGCCGCTTGTGGCCTCGCTCCAAACAGCCCTGA	288	LPDPLQEPYYQPPYTLVLELTGVLLHPEWSLATGWRFKKRPGIETLFQQLAPLYEIVIFTSETGMTAFPLIDSVDPHGFISYRLFRDATRYMDGHHVKDISCLNRDPARVVVVDCKKEAFRLQPYNGVALRPWDGNSDDRVLLDLSAFLKTIALNGVEDVRTVLEHYALEDDPLAAFKQRQSRLEQEEQQRLAELSKSNKQNLFLGSLTSRLWPRSKQP*
Shigella ospC1	3	prey67371	88	TGGGGGGTGGGGATGGGGTTTGTTTNTNNNNCTTNTTTTTNTTNNNNTNCNNATTGGNNTTTNNTTTNTTTNCTACTATGGACNTGANTGATTTTTTTTTTTCTTATNTTTNACTTGNNTNCTGTGGGNGAAGGNTGNAAANTATTTTATNTGNNTTANTCAATTTTTCNCATTAGCCGANANTCNNTATCCTGATACTACTTCATTNGATGACNTATTNGNCTTATANTCNTTTNGAAGCNTGATTANGATTTATAANCTNNTTTTNCATNCGGATCCANTCNTN	289	WGVGMGFVXXXXFXXXXXWXXXXXLLWT*XIFFFLXFXLXXVGEGXKXFYXXXSIFXISRXSXS*YYFIX*XIXLIXXXKXDXDL*XXFXXGSXX
Shigella ospC1	3	prey4005	89	CTCACACAACTCTTTGAGAGGAGCTCGTCCTCAGGACCCCTCTGAGGAAGGTCCCGGTGATTTTGGCTTCCTGCATGCCAGTAGTAGCATCGAGTCCGAGGCAAAACCAGCCCAGCCTCAGCCCACTGGTGAAAAGGAACAAGATAAATCAAAAACTCTTTCCCTTGAGGAGGCTGTGACTTCCATTCAGCAGCTCTTCCAGCTCAGTGTTTCCATCGCTTTCAACTTCCTGGGAACAGAGAACATGAAGAGTGGCGACCACACGGCAGCCTTTTCTTACTTCCAGAAAGCTGCAGCCCGCGGCTACAGCAAAGCGCAGTACAATGCGGGCTTGTGTCATGAGCATGGCAGAGGCACCCCCAGGGACATTAGCAAGGCGGTCCTTTATTATCAGTTGGCTGCCAGCCAGGGCCACAGCCTGGCTCAGTACCGCTATGCCAGGTGCCTACTACGAGACCCAGCCTCTTCGTGGAACCCTGAGCGGCAGAGGGCAGTGTCCTTGCTGAAGCAGGCTGCAGACTCAGGCTTGAGAGAGGCCCAAGCTTTCCTCGGGGTGCTTTTCACCAAGGAGCCCTACCTGGATGAGCAGAGAGCTGTGAAATATCTTTGGCTTGCAGCCAACAATGGGGACTCACAGAGCAGGTACCACCTTGGAATTTGCTATGAGAAAGGCCTTGGTGTGCAGAGGAATCTGGGAGAGGCCTTGAGATGTTACCAGCAGTCAGCCGCTCTGGGAAATGAGGCCGCCCAGGAGAGGCTGCGAGCCCTCTTTTCCATGGGGGCTGCAGCCCCGGGGCCCAGCGACCTGACAGTTACAGGACTGAAGTCTTTCTCCAGCCCCTCCCTCTGCAGCTTGAACACCCTGCTAGCAGGAACCTCACGCCTACCACATGCCTCGAGCACAGGCAACCTTGGCCTCCTCT	290	SHNSLRGARPQDPSEEGPGDFGFLHASSSIESEAKPAQPQPTGEKEQDKSKTLSLEEAVTSIQQLFQLSVSIAFNFLGTENMKSGDHTAAFSYFQKAAARGYSKAQYNAGLCHEHGRGTPRDISKAVLYYQLAASQGHSLAQYRYARCLLRDPASSWNPERQRAVSLLKQAADSGLREAQAFLGVLFTKEPYLDEQRAVKYLWLAANNGDSQSRYHLGICYEKGLGVQRNLGEALRCYQQSAALGNEAAQERLRALFSMGAAAPGPSDLTVTGLKSFSSPSLCSLNTLLAGTSRLPHASSTGNLGLLCRSGHLGASLEASRAIPPHPYPLERSVVRLG

				GCAGAAGTGGGCATCTCGGAGCCAGCCTGGAAGCCTCCAGCAGGGCTATTC CCCCACACCCCTACCCACTGGAAAGGAGTGTTGTAAGACTAGGTTTTGGCTA A		FG*
Shigella ospC1	3	prey67380	90	NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNGTCACT ATGTATCTTCTTTTAAATGTAAGTTTTGTGTTTTATAATTTTTCACATCTACTGA ATTAAATCTGAACAGTGACTTTGTGCAAAATAAATTTTGCTGTCCATTCTTGCC AAAAAGTCCTGAATGTCCAGGATGATTTCTCCAGGACATCTCTATTGCTCCCA AGTTTCAAACAGTTTTTTGGGAGCCAAAACCTCAGGATTTACCCTANATCTGG TTAACATTTTGAAAANATACANG	291	XXXXXXXXXXXXXXXSLCIF F*M*VLCFIIFHIY*IKSEQ*LC AK*ILLSILAKKS*MSRMISP GHLYCSQVSNSFLGAKTSG FTLXLVNILKXYX
Shigella ospC1	3	prey3296	91	GGACCCTGTCTCAGTGGACACGGCCCGACTGGAACACCTCTTTGAGTCTCG TGCCAAAGAGGTGCTGCCCTCCAAGAAAGCTGGAGAGGGCCGCCGGACAAT GACCACAGTGCTGGACCCCAAGCGCACGAACGCCATCAACATCGGCCTAAC CACACTGCCACCTGTGCATGTCATTAAGGCTGCTCTGCTCAACTTTGATGAG TTTGCTGTCAGCAAGGATGGCATTGAGAAGCTACTGACCATGATGCCCACGG AGGAAGAGCGGCAGAAGATTGAGGGAGCCCAGCTGGCCAACCCTGACATAC CCCTGGGCCCAGCCGAGAACTTCCTGATGACTCTTGCCTCCATTGGCGGCC TCGCTGCTCGTCTACAACTCTGGGCCTTCAAGCTGGACTATGACAGCATGGA GCGGGAAATTGCTGAGCCACTGTTTGACCTGAAAGTGGGTATGGAACAGCT GGTACAGAATGCCACCTTCCGCTGCATCCTGGCTACCCTCCTAGCTGTGGG CAACTTCCTCAATGGCTCCCAGAGCAGCGGCTTTGAGCTGAGCTACCTGGA GAAGGTGTCAGATGTGAAGGACACGGTGCGTCGACAGTCACTGCTACACCA TCTCTGCTCCCTAGTGCTCCAGACCCGGCCTGAGTCCTCTGACCTCTATTCA GAAATCCCTGCCCTGACCCGCTGTGCCAAGGTGGACTTTGAACAGCTGACT GAGAACCTGGGGCAGCTGGAGCGCCGGAGCCGGGCAGCCGAGGAAAGCC TGCGGAGCTTGGCCAAGCATGAGCTGGCCCCAGCCCTGCGTGCCCGCCTC ACCCACTTCCTGGACCAGTGTGCCCGCCGTGTTGCCATGCTAAGGATAGTG CACCGCCGTGTCTGCAATAGGTTCCATGCCTTCCTGCTCTACCTGGGCTACA CCCCGCAGGCGGCCCGTGAAGTGCGCATCATGCAGTTCTGCCACACGCTGC GGGAATTTGCGCTTGAGTATCGGACTTGCCGGGAACGAGTGCTACAGCAGC AGCAGAAGCAGGCCACATACCGTGAGCGCAACAAGACCCGGGGACGCATG ATCACCGAGACAGAGAAGTTCTCAGGTGTGGCTGGGGAAGCCCCCAGCAAC CCCTCTGTCCCAGTAGCAGTGAGCAGCGGGCCAGGCCGGGGAGATGCTGA CAGTCATGCTAGTATGAAGAGTCTGCTGACCAGCAGGCTTGAGGACACCAC ACACAATCGCCGCAGCAGAGGCATGGTCCAGAGCAGCTCCCCAATCATGCC CACAGTGGGGCCCTCCACTGCATCCCCAGAAGAACCCCCAGGCTCCAGTTT ACCCAGTGATACATCAGATGAGATCATGGACCTTCTGGTGCAGTCAGTGACC AAGAGCAGTCCTCGTGCCTTAGCTGCTAGGGAACGCAAGCGTTCCCGCGGC AACCGCAAGTCTTTGAGAAGGACGTTGAAGAGTGGGCTCGGAGATGACCTG GTGCAGGCACTGGGACTAAGCAAGGGTCCTGGCCTGGAGGTGTGA	292	DPVSVDTARLEHLFESRAK EVLPSKKAGEGRRTMTTVL DPKRTNAINIGLTTLPPVHVI KAALLNFDEFAVSKDGIEKL LTMMPTEEERQKIEGAQLA NPDIPLGPAENFLMTLASIG GLAARLQLWAFKLDYDSM EREIAEPLFDLKVGMEQLV QNATFRCILATLLAVGNFLN GSQSSGFELSYLEKVSDVK DTVRRQSLLHHLCSLVLQT RPESSDLYSEIPALTRCAKV DFEQLTENLGQLERRSRAA EESLRSLAKHELAPALRAR LTHFLDQCARRVAMLRIVH RRVCNRFHAFLLYLGYTPQ AAREVRIMQFCHTLREFAL EYRTCRERVLQQQQKQAT YRERNKTRGRMITETEKFS GVAGEAPSNPSVPVAVSS GPGRGDADSHASMKSLLT SRLEDTTHNRRSRGMVQS SSPIMPTVGPSTASPEEPP GSSLPSDTSDEIMDLLVQS VTKSSPRALAARERKRSRG NRKSLRRTLKSGLGDDLVQ ALGLSKGPGLEV*

Shigella ospC1	3	prey2108	92	GCAGGAAGCTCAGAGTATCGATGAAATCTACAAATACGACAAGAAACAGCAGCAAGAAATCCTGGCGGCGAAGCCCTGGACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATTGGCTCTGCTGAAGATGGTGATGCATGCCAGATCGGGAGGCAACTTGGAAGTGATGGGTCTGATGCTAGGAAAGGTGGATGGTGAAACCATGATCATTATGGACAGTTTTGCTTTGCCTGTGGAGGGCACTGAAACCCGAGTAAATGCTCAGGCTGCTGCATATGAATACATGGCTGCATACATAGAAAATGCAAAACAGGTTGGCCGCCTTGAAAATGCAATCGGGTGGTATCATAGCCACCCTGGCTATGGCTGCTGGCTTTCTGGGATTGATGTTAGTACTCAGATGCTCAATCAGCAGTTCCAGGAACCATTTGTAGCAGTGGTGATTGATCCAACAAGAACAATATCCGCAGGGAAAGTGAATCTTGGCGCCTTTAGGACATACCCAAAGGGCTACAAACCTCCTGATGAAGGACCTTCTGAGTACCAGACTATTCCACTTAATAAAATAGAAGATTTTGGTGTACACTGCAAACAATATTATGCCTTAGAAGTCTCATATTTCAAATCCTCTTTGGATCGCAAATTGCTTGAGCTGTTGTGGAATAAATACTGGGTGAATACGTTGAGTTCTTCTAGCTTGCTTACTAATGCAGACTATACCACTGGTCAGGTCTTTGATTTGTCTGAAAAGTTAGAGCAGTCAGAAGCCCAGCTGGGACGAGGGAGTTTCATGTTGGGTTTAGAAACGCATGACCGAAAATCAGAAGACAAACTTGCCAAAGCTACAAGAGACAGCTGTAAAACTACCATAGAAGCTATCCATGGATTGATGTCTCAGGTTATTAAGGATAAACTGTTTAATCAAATTAACATCTCTTAA	293	QEAQSIDEIYKYDKKQQQEILAAKPWTKDHHYFKYCKISALALLKMVMHARSGGNLEVMGLMLGKVDGETMIIMDSFALPVEGTETRVNAQAAAYEYMAAYIENAKQVGRLENAIGWYHSHPGYGCWLSGIDVSTQMLNQQFQEPFVAVVIDPTRTISAGKVNLGAFRTYPKGYKPPDEGPSEYQTIPLNKIEDFGVHCKQYYALEVSYFKSSLDRKLLELLWNKYWVNTLSSSSLLTNADYTTGQVFDLSEKLEQSEAQLGRGSFMLGLETHDRKSEDKLAKATRDSCKTTIEAIHGLMSQVIKDKLFNQINIS*
Shigella ospC1	3	prey67403	93	TTGGGGCATCTTGGCAGGAGCTTTGGATTTCTTTAGGGAAATGGCAATCAGATGGGGCAGAGTGTTTTTTGCTGAGGGAATCAGAATGATCCCTCAAACAGCACCTTTGATCTCTATTCTCTGCTAAAGATGGTGCTTCCTCTACTTCCCCAGACCCCCGTGTCTGTTCCATTTCCATGAATTTTTCATCAGGGTCACAGGACAAAGGTTTTAGTCTTTGGTTCTAATGAGACCTCTGACTTGGCTCTGGATGACTATGAAACTAGTGAATGCATTTGTCTTTTCTGGAATCCN	294	LGHLGRSFGFL*GNGNQMGQSVFC*GNQNDPSNSTFDLYSLLKMVLPLLPQTPVSVPFP*IFHQGHRTKVLVFGSNETSDLALDDYETSECICLFWNP
Shigella ospC1	3	prey67405	94	GCTAATATGGTAGCTATTGATAGCTTACTATGTATCAGATCCNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNTGAGTAGCTAGGACTACAGTGGTGAGCCACCATGCCCAGCTAATTTTTTTTTTTTTTTTNNNNAAAAAGGGNNTTNNTTNTTNTNGCCCNGGNNGGTNTNAANCTCNTNNCCTNANGGNATTNNCCCNCCTNGNCCNCCAAANGGGCNGGANTT	295	ANMVAIDSLLCIRSXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXE*LGLQW*ATMPS*FFFFFXXKGXXXXXPXXVXXSXPXGIXPPXPPXGXX
Shigella ospC1	3	prey14400	95	GGGCGAGAGGACTGAGTGTGCTGAGCCCCCCGGGACGAACCCCCGGCTGATGGAGCTCTGAAGCGGGCAGAGGAGCTCAAGACTCAGGCCAATGACTACTTCAAAGCCAAGGACTACGAGAACGCCATCAAGTTCTACAGCCAGGCCATCGAGCTGAACCCCAGCAATGCCATCTACTATGGCAACCGCAGCCTGGCCTACCTGCGCACTGAGTGCTATGGCTACGCGCTGGGAGACGCCACGCGGGCCATTGAGCTGGACAAGAAGTACATCAAGGGTTATTACCGCCGGGCTGCCAGCAACATGGCACTGGGCAAGTTCCGGGCCGCGCTGCGAGACTACGAGACGGTGGTCAAGGTGAAGCCCCATGACAAGGATGCCAAAATGAAATACCAGGAGTGCAA	296	GERTECAEPPRDEPPADGALKRAEELKTQANDYFKAKDYENAIKFYSQAIELNPSNAIYYGNRSLAYLRTECYGYALGDATRAIELDKKYIKGYYRRAASNMALGKFRAALRDYETVVKVKPHDKDAKMKYQECNKIVKQKAFERAIAGDEH

				CAAGATCGTGAAGCAGAAGGCCTTTGAGCGGGCCATCGCGGGCGACGAGC ACAAGCGCTCCGTGGTGGACTCGCTGGACATCGAGAGCATGACCATTGAGG ATGAGTACAGCGGACCCAAGCTTGAAGACGGCAAAGTGACAATCAGTTTCAT GAAGGAGCTCATGCAGTGGTACAAGGACCAGAAGAAACTGCACCGGAAATG TGCCTACCAGATTCTGGTACAGGTCAAAGAGGTCCTCTCCAAGCTGAGCACG CTCGTGGAAACCACACTCAAAGAGACAGAGAAGATTACAGTATGTGGGGACA CCCATGGCCAGTTCTATGACCTCCTCAACATATTCGAGCTCAACGGTTTACC CTCGGAGACCAACCCCTATATATTTAATGGTGACTTTGTGGACCGAGGCTCC TTCTCTGTAGAAGTGATCCTCACCCTTTTCGGCTTCAAGCTCCTGTACCCAGA TCACTTTCACCTCCTTCGAGGCAACCACGAGACAGACAACATGAACCAGATC TACGGTTTCGAGGGTGAGGTGAAGGCCAAGTACACAGCCCAGATGTACGAG CTCTTTAGCGAGGTGTTCGAGTGGCTCCCGTTGGCCCAGTGCATCAACGGC AAAGTGCTGATCATGCACGGAGGCCTGTTCAGTGAAGACGGTGTCACCCTG GATGACATCCGGAAAATTGAGCGGAATCGACAACCCCCAGATTCAGGGCCC ATGTGTGACCTGCTCTGGTCAGATCCACAGCCACAGAACGGGCGCTCGATC AGCAAGCGGGGCGTGAGCTGTCAGTTTGGGCCTGACGTCACCAAGGCCTTC TTGGAAGAGAACAACCTGGACTATATCATCCGCAGCCACGAAGTCAAGGCC GAGGGCTACGAGGTGGCTCACGGAGGCCGCTGTGTCACCGTCTTCTCTGCC CCCAACTACTGCGACCAGATGGGGAACAAAGCCTCCTACATCCACCTCCAG GGCTCTGACCTACGGCCTCAGTTCCACCAGTTCACAGCAGTGCCTCATCCCA ACGTCAAGCCCATGGCCTATGCCAACACGCTGCTGCAGCTAGGAATGATGT GA		KRSVVDSLDIESMTIEDEYS GPKLEDGKVTISFMKELMQ WYKDQKKLHRKCAYQILVQ VKEVLSKLSTLVETTLKETE KITVCGDTHGQFYDLLNIFE LNGLPSETNPYIFNGDFVD RGSFSVEVILTLFGFKLLYP DHFHLLRGNHETDNMNQIY GFEGEVKAKYTAQMYELFS EVFEWLPLAQCINGKVLIM HGGLFSEDGVTLDDIRKIER NRQPPDSGPMCDLLWSDP QPQNGRSISKRGVSCQFG PDVTKAFLEENNLDYIIRSH EVKAEGYEVAHGGRCVTV FSAPNYCDQMGNKASYIHL QGSDLRPQFHQFTAVPHP NVKPMAYANTLLQLGMM*
Shigella ospC1	3	prey50029	96	CTCACCTCTGAAATTCCACAGCTCAATGACTGGAGGCTCTCTCCCACCCACT CAAGACATTGCCAGGAACGTCTTAAGACCTCAGGAGACCACTTCTTTAGTAA GCAATTTTTTAGATGGATTCTCACTCTGTCACTCAGGCTGGAGTGCAGTGGC GCGGTCTCTGCTCACTACACCCTCCCTCTCCTGGCTCCTGCCCGTATGTATT TCTCCTTCTCTCCATGCCTGCTCTGTAGGGACCATAGCCTCTGTCCCTGCAT ACATGTTGGACATCAATCACATCAGTCCACCAAGTAACTTCATCAAGCACCCA TGTACGCCCAGCACAGCGTCCCAAGGGTGCCCCACTTACCCACAGAAGAAG AAAGGCAACTTTGGTAAGAGATCTGACTTCTAGCTCCAGTTCTGTCTCTAGCT AACGTGAGATGCACCCGGTTGAGGGCTGTTTTTTAATTGTTGAAAATGAAGG ACTGAACTTAGATGGTCCAACTGAAATGTTTTAAAATGATATGATTCTACCTTA AAAAGAGAATGAAATTCTGATATATTCACAACACAGGAAACCCTTGAAAACGT TATGCTAAATGAAATAAGGGAGACATGAAAGGACAAATATATGACTCCACTTA TGTGATGTCCCTCAAATAGACAACCACATAGAGACAGAAAGTAGACAGTGGG TGCTAGGGGTTGCTGGAGGGGCAATGGAGAGTTAGTGTTTAATGGGTACAG TGTCACAGTGGCTGCTCTGTCTATGGAGTAGGCACTCTTGGGTCTCTTTACT TCTCTAATAAACTCGCTCACACTTAAAAAGAAAAAGCTCTGGAGATTGATAG	297	LTSEIPQLNDWRLSPTHSR HCQERLKTSGDHFFSKQFF RWILTLSLRLECSGAVSAH YTLPLLAPARMYFSFSPCLL CRDHSLCPCIHVGHQSHQ STK*LHQAPMYAQHSVPRV PHLPTEEERQLW*EI*LLAP VLSLANVRCTRLRAVF*LLK MKD*T*MVQLKCFKMI*FYL KKRMKF*YIHNTGNP*KRYA K*NKGDMKGQIYDSTYVMS LK*TTT*RQKVDSGC*GLLE GQWRVSV*WVQCHSGCSV YGVGTLGSLYFSNKLAHT* KEKALEID
Shigella	4	prey67563	97	GCTGTGTTGAGAGGCGATGCAGAAGCAGTGAAGGGCATAGGATCCGGCAAA	298	AVLRGDAEAVKGIGSGKVL

ipaD				GTCCTGAAGAGTGGCCCCCAGGATCACGTGTTCATTTACTTCACTGACCATG GATCTACTGGAATACTGGTTTTTCCCAATGAAGATCTTCATGTAAAGGACCTG AATGAGACCATCCATTACATGTACAAACACAAAATGTACCGAAAGATGGTGTT CTACATTGAAGCCTGTGAGTCTGGGTCCATGATGAACCACCTGCCGGATAAC ATCAATGTTTATGCAACTACTGCTGCCAACCCCAGAGAGTCGTCCTACGCCT GTTACTATGATGAGAAGAGGTCCACGTACCTGGGGGACTGGTACAGCGTCA ACTGGATGGAAGACTCGGACGTGGAAGATCTGACTAAAGAGACCCTGCACA AGCAGTACCACCTGGTAAAATCGCACACCAACACCAGCCACGTCATGCAGTA TGGAAACAAAACAATCTCCACCATGAAAGTGATGCAGTTTCAGGGTATGAAA CGCAAAGCCAGTTCTCCCGTCCCCCTACCTCCAGTCACACACCTTGACCTCA CCCCCAGCCCTGATGTGCCTCTCACCATCATGAAAAGGAAACTGATGAACAC CAATGATCTGGAGGAGTCCAGGCAGCTCACGGAGGAGATCCAGCGGCATCT GGATGCCAGGCACCTCATTGAGAAGTCAGTGCGTAAGATCGTCTCCTTGCTG GCAGCGTCCGAGGCTGAGGTGGAGCAGCTCCTGTCCGAGAGAGCCCCGCT CACGGGGCACAGCTGCTACCCAGAGGCCCTGCTGCACTTCCGGACCCACTG CTTCAACTGGCACTCCCCCACGTACGAGTATGCGTTGAGACATTTGTACGTG CTGGTCAACCTTTGTGAGAAGCCGTATCCACTTCACAGGATAAAATTGTCCAT GGACCACGTGTGCCTTGGTCACTACTGA		KSGPQDHVFIYFTDHGSTG ILVFPNEDLHVKDLNETIHY MYKHKMYRKMVFYIEACES GSMMNHLPDNINVYATTAA NPRESSYACYYDEKRSTYL GDWYSVNWMEDSDVEDLT KETLHKQYHLVKSHTNTSH VMQYGNKTISTMKVMQFQ GMKRKASSPVPLPPVTHLD LTPSPDVPLTIMKRKLMNT NDLEESRQLTEEIQRHLDA RHLIEKSVRKIVSLLAASEA EVEQLLSERAPLTGHSCYP EALLHFRTHCFNWHSPTYE YALRHLYVLVNLCEKPYPL HRIKLSMDHVCLGHY*
Shigella ipaD	4	prey2109	98	GACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATTGGCTCTTC TGAAGATGGTGATGCATGCCAGATCGGGAGGCAATTTGGAAGTGATGGGTC TGATGCTAGGAAAGGTGGATGGTGAAACCATGATCATTATGGACAGTTTTGC TTTGCCTGTGGAGGGCACTGAAACCCGAGTAAATGCTCAGGCTGCTGCATAT GAATACATGGCTGCATACATAGAAAATGCAAAACAGGTTGGCCGCCTTGAAA ATGCAATCGGGTGGTATCATAGCCACCCTGGCTATGGCTGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGCAGTTCCAGGAACCATTTGTAG CAGTGGTGATTGATCCAACAAGAACAATATCCGCAGGGAAAGTGAATCTTGG CGCCTTTAGGACATACCCAAAGGGCTACAAACCTCCTGATGAAGGACCTTCT GAGTACCAGACTATTCCACTTAATAAAATAGAAGATTTTGGTGTACACTGCAA ACAATATTATGCCTTAGAAGTCTCATATTTCAAATCCTCTTTGGATCGCAAATT GCTTGAGCTGTTGTGGAATAAATACTGGGTGAATACGTTGAGTTCTTCTAGCT TGCTTACTAATGCAGACTATACCACTGGTCAGGTCTTTGATTTGTCTGAAAAG TTAGAGCAGTCAGAAGCCCAGCTGGGACGAGGGAGTTTCATGTTGGGTTTA GAAACGCATGACCGAAAATCAGAAGACAAACTTGCCAAAGCTACAAGAGACA GCTGTAAAACTACCATAGAAGCTATCCATGGATTGATGTCTCAGGTTATTAAG GATAAACTGTTTAATCAAATTAACATCTCTTAA	299	TKDHHYFKYCKISALALLKM VMHARSGGNLEVMGLMLG KVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIE NAKQVGRLENAIGWYHSH PGYGCWLSGIDVSTQMLN QQFQEPFVAVVIDPTRTISA GKVNLGAFRTYPKGYKPPD EGPSEYQTIPLNKIEDFGVH CKQYYALEVSYFKSSLDRK LLELLWNKYWVNTLSSSSL LTNADYTTGQVFDLSEKLE QSEAQLGRGSFMLGLETH DRKSEDKLAKATRDSCKTT IEAIHGLMSQVIKDKLFNQIN IS*
Shigella ipaD	4	prey25185	99	GGGCAATAAGGCCTGTAGCCCATGCTCCTCACAGTCCTCCAGCAGTGGCAT TTGCACAGACTTCTGGGACTTATTGGTAAAACTGGACAACATGAATGTCAGC CGGAAAGGCAAGAACTCCGTGAAGTCAGTGCCAGTGAGCGCTGGCGGTGA GGGGGAAACCTCTCCATACAGCCTCGAGGCCTCTCCACTGGGGCAGCTCAT	300	GNKACSPCSSQSSSSGICT DFWDLLVKLDNMNVSRKG KNSVKSVPVSAGGEGETS PYSLEASPLGQLMNMLSHP

				GAACATGTTGTCACACCCAGTCATCCGCCGGAGCTCTCTCTTAACTGAGAAA CTCCTCAGACTCCTTTCTCTCATCTCAATTGCTCTCCCAGAAAACAAGGTGTC AGAAGCACAGGCTAATTCTGGCAGCGGTGCTTCCTCCACCACCACTGCCAC CTCAACCACATCTACCACCACCACCACTGCCGCCTCCACCACGCCCACACC CCCTACTGCACCCACCCCTGTCACTTCTGCTCCAGCCCTGGTTGCTGCCAC GGCTATTTCCACCATTGTCGTAGCTGCTTCGACCACAGTGACTACCCCCACG ACTGCTACCACTACTGTTTCAATTTCTCCCACTACTAAGGGCAGCAAATCTCC AGCGAAGGTGAGTGATGGGGGCAGCAGCAGTACAGACTTTAAGATGGTGTC CTCTGGCCTCACTGAAAACCAGCTACAGCTCTCTGTAGAGGTGTTGACATCC CACTCTTGTTCTGAGGAAGGCTTAGAGGATGCAGCCAACGTACTACTGCAGC TCTCCCGGGGGGACTCTGGGACCCGGGACACTGTTCTCAAGCTGCTACTGA ATGGAGCCCGCCATCTGGGTTATACCCTTTGTAAACAAATAGGTACCCTGCT GGCCGAGCTGCGGGAATACAACCTCGAGCAGCAGCGGCGAGCCCAATGTG AAACCCTCTCTCCTGATGGCCTGCCTGAGGAGCAGCCACAGACCACCAAGC TGAAGGGCAAAATGCAGAGCAGGTTTGACATGGCTGAGAATGTGGTAATTGT GGCATCTCAGAAGCGACCTTTGGGTGGCCGGGAGCTCCAGCTGCCTTCTAT GTCCATGTTGACATCCAAGACATCTACCCAGAAGTTCTTCTTGAGGGTACTA CAGGTCATCATCCAGCTCCGGGACGACACGCGCCGGGCTAACAAGAAAGCC AAGCAGACAGGCAGGCTAGGTTCCTCCGGTTTAGGCTCAGCTAGCAGCATC CAGGCAGCTGTTCGGCAGCTGGAGGCTGAGGCTGATGCCATTATACAAATG GTACGTGAGGGTCAAAGGGCGCGGAGACAGCAACAAGCAGCAACGTCGGA GTCTAGCCAGTCAGAGGCGTCTGTCCGGAGGGAGGAATCACCCATGGATGT GGACCAGCCATCTCCCAGTGCTCAAGATACTCAATCCATTGCCTCCGATGGA ACCCCACAGGGGGAGAAGGAAAAGGAAGAAAGACCACCTGAGTTACCCCTG CTCAGCGAGCAGCTGAGTTTGGACGAGCTGTGGGACATGCTTGGGGAGTGT CTAAAGGAACTAGAGGAATCCCATGACCAGCATGCGGTGCTAGTGCTACAG CCTGCTGTCGAGGCCTTCTTTCTGGTCCATGCCACAGAGCGGGAGAGCAAG CCTCCTGTCCGAGACACCCGTGAGAGCCAGCTGGCACACATCAAGGACGAG CCTCCTCCACTCTCCCCTGCCCCCTTAACCCCAGCCACGCCTTCCTCCCTTG ACCCATTCTTCTCCCGGGAGCCCTCATCTATGCACATCTCCTCAAGCCTGCC CCCTGACACACAGAAGTTCCTTCGCTTTGCAGAGACTCACCGCACTGTGTTA AACCAGATCCTACGGCAGTCCACGACCCACCTTGCTGATGGGCCTTTTGCTG TCCTGGTAGACTACATTCGTGTCCTCGACTTTGATGTCAAGCGCAAATATTTC CGCCAAGAGCTGGAGCGTTTAGATGAGGGGCTCCGGAAAGAAGACATGGCT GTGCATGTCCGTCGTGACCATGTGTTTGAAGACTCCTATCGTGAGCTGCATC GCAAATCCCCCGAAGAAATGAAGAATCGATTGTATATAGTATTTGAAGGAGA AGAAGGGCAGGATGCTGGCGGGCTCCTGCGGGAGTGGTATATGATCATCTC TCGAGAGATGTTTAACCCTATGTATGCCTTGTTCCGTACCTCACCTGGTGATC GAGTCACCTACACCATCAATCCATCTTCCCACTGCAACCCCAACCACCTCAG		VIRRSSLLTEKLLRLLSLISIA LPENKVSEAQANSGSGAS STTTATSTTSTTTTTAASTT PTPPTAPTPVTSAPALVAAT AISTIVVAASTTVTTPTTATT TVSISPTTKGSKSPAKVSD GGSSSTDFKMVSSGLTEN QLQLSVEVLTSHSCSEEGL EDAANVLLQLSRGDSGTRD TVLKLLLNGARHLGYTLCK QIGTLLAELREYNLEQQRR AQCETLSPDGLPEEQPQTT KLKGKMQSRFDMAENVVIV ASQKRPLGGRELQLPSMS MLTSKTSTQKFFLRVLQVII QLRDDTRRANKKAKQTGR LGSSGLGSASSIQAAVRQL EAEADAIIQMVREGQRARR QQQAATSESSQSEASVRR EESPMDVDQPSPSAQDTQ SIASDGTPQGEKEKEERPP ELPLLSEQLSLDELWDMLG ECLKELEESHDQHAVLVLQ PAVEAFFLVHATERESKPP VRDTRESQLAHIKDEPPPL SPAPLTPATPSSLDPFFSR EPSSMHISSSLPPDTQKFL RFAETHRTVLNQILRQSTT HLADGPFAVLVDYIRVLDFD VKRKYFRQELERLDEGLRK EDMAVHVRRDHVFEDSYR ELHRKSPEEMKNRLYIVFE GEEGQDAGGLLREWYMIIS REMFNPMYALFRTSPGDR VTYTINPSSHCNPNHLSYF KFVGRIVAKAVYDNRLLEC YFTRSFYKHILGKSVRYTD MESEDYHFYQGLVYLLEND VSTLGYDLTFSTEVQEFGV

				CTACTTCAAGTTTGTCGGACGCATTGTGGCCAAAGCTGTATATGACAACCGT CTTCTGGAGTGCTACTTTACTCGATCCTTTTACAAACACATCTTGGGCAAGTC AGTCAGATATACAGATATGGAGAGTGAAGATTACCACTTCTACCAAGGTCTG GTTTATCTGCTGGAAAATGATGTCTCCACACTAGGCTATGACCTCACCTTCAG CACTGAGGTCCAAGAGTTTGGAGTTTGTGAAGTTCGTGACCTCAAACCCAAT GGGGCCAACATCTTGGTAACAGAGGAGAATAAGAAGGAGTATGTACACCTG GTATGCCAGATGAGAATGACAGGAGCCATCCGCAAGCAGTTGGCGGCTTTC TTAGAAGGCTTCTATGAGATCATTCCAAAGCGCCTCATTTCCATCTTCACTGA GCAGGAGTTAGAGCTGCTTATATCAGGACTGCCCACCATTGACATCGATGAT CTGAAATCCAACACTGAATACCACAAGTACCAGTCCAACTCTATTCAGATCCA GTGGTTCTGGAGAGCATTGCGTTCTTTCGATCAAGCTGACCGTGCCAAGTTC CTCCAGTTTGTCACGGGTACTTCCAAGGTACCCCTGCAAGGCTTTGCTGCCC TCGAAGGCATGAATGGCATTCAGAAGTTTCAGATCCATCGAGATGACAGGTC CACAGATCGCCTGCCTTCAGCTCACACATGTTTTAATCAGCTGGATCTGCCT GCCTATGAGAGCTTTGAGAAGTCCGCCACATGCTACTGTTGGCTATCCAGGA GTGCTCTGAAGGCTTTGGGCTGGCCTAATAAGGCCCTGCCCAACTCCGTGG GGTTTTTTTACCATTGTTGGACCTGGGGAGGGGGGAGTTAAAAAAAGAACC AGAAAGAAATTGTCAAAAACCAATAAATGAAATCCACCAACTCACCGTGTGTG TCCCAGCTGCCCCATCTTCCCCAGCGCATACCTGTTCCTCTTCTCATTCTCTC CCCGCCGCCTGTTTCCTCACCTTCTCTCCCCTTTCCATGCCGTCCATGATCC CCACCCCATGTGTTTTAAAAAGGCAGTAG		CEVRDLKPNGANILVTEEN KKEYVHLVCQMRMTGAIRK QLAAFLEGFYEIIPKRLISIFT EQELELLISGLPTIDIDDLKS NTEYHKYQSNSIQIQWFWR ALRSFDQADRAKFLQFVTG TSKVPLQGFAALEGMNGIQ KFQIHRDDRSTDRLPSAHT CFNQLDLPAYESFEKSATC YCWLSRSALKALGWPNKA LPNSVGFFLPLLDLGRGEL KKEPERNCQKPINEIHQLTV CVPAAPSSPAHTCSSSHSL PAACFLTFSPLSMPSMIPTP CVLKRQ*
Shigella ipaD	4	prey53990	100	CCACCTATACCCCCGGTGACTGTCCCAACTTTGCGGCTCCCCGCAGAGAGG TGGCACCACCCTATCAGGGGGCTGACCCCATCCTTGCGACAGCCCTCGCCT CCGACCCCATCCCCAACCCCCTTCAGAAGTGGGAGGACAGCGCCCACAAGC CACAGAGCCTAGACACTGATGACCCCGCGACGCTGTACGCCGTGGTGGAGA ACGTGCCCCCGTTGCGCTGGAAGGAATTCGTGCGGCGCCTAGGGCTGAGC GACCACGAGATCGATCGGCTGGAGCTGCAGAACGGGCGCTGCCTGCGCGA GGCGCAATACAGCATGCTGGCGACCTGGAGGCGGCGCACGCCGCGGCGC GAGGCCACGCTGGAGCTGCTGGGACGCGTGCTCCGCGACATGGACCTGCT GGGCTGCCTGGAGGACATCGAGGAGGCGCTTTGCGGCCCCGCCGCCCTCC CGCCCGCGCCCAGTCTTCTCAGATGA	301	TYTPGDCPNFAAPRREVAP PYQGADPILATALASDPIPN PLQKWEDSAHKPQSLDTD DPATLYAVVENVPPLRWKE FVRRLGLSDHEIDRLELQN GRCLREAQYSMLATWRRR TPRREATLELLGRVLRDMD LLGCLEDIEEALCGPAALPP APSLLR*
Shigella ipaD	4	prey9120	101	GCCACGCGCTCCTCTGCCGTGCGCCTGCGGAGCAGCGTGCCCGGGGTGCG GCTCCTGCAGGACTCGGTGGACTTCTCGCTGGCCGACGCCATCAACACCGA GTTCAAGAACACCCGCACCAACGAGAAGGTGGAGCTGCAGGAGCTGAATGA CCGCTTCGCCAACTACATCGACAAGGTGCGCTTCCTGGAGCAGCAGAATAA GATCCTGCTGGCCGAGCTCGAGCAGCTCAAGGGCCAAGGCAAGTCGCGCC TAGGGGACCTCTACGAGGAGGAGATGCGGGAGCTGCGCCGGCAGGTGGAC CAGCTAACCAACGACAAAGCCCGCGTCGAGGTGGAGCGCGACAACCTGGC CGAGGACATCATGCGCCTCCGGGAGAAATTGCAGGAGGAGATGCTTCAGAG	302	ATRSSAVRLRSSVPGVRLL QDSVDFSLADAINTEFKNT RTNEKVELQELNDRFANYI DKVRFLEQQNKILLAELEQL KGQGKSRLGDLYEEEMRE LRRQVDQLTNDKARVEVE RDNLAEDIMRLREKLQEEM LQREEAENTLQSFRQDVD

				AGAGGAAGCCGAAAACACCCTGCAATCTTTCAGACAGGATGTTGACAATGCG TCTCTGGCACGTCTTGACCTTGAACGCAAAGTGGAATCTTTGCAAGAAGAGA TTGCCTTTTTGAAGAAACTCCACGAAGAGGAAATCCAGGAGCTGCAGGCTCA GATTCAGGAACAGCATGTCCAAATCGATGTGGATGTTTCCAAGCCTGACCTC ACGGCTGCCCTGCGTGACGTACGTCAGCAATATGAAAGTGTGGCTGCCAAG AACCTGCAGGAGGCAGAAGAATGGTACAAATCCAAGTTTGCTGACCTCTCTG AGGCTGCCAACCGGAACAATGACGCCCTGCGCCAGGCAAAGCAGGAGTCC ACTGAGTACCGGAGACAGGTGCAGTCCCTCACCTGTGAAGTGGATGCCCTT AAAGGAACCAATGAGTCCCTGGAACGCCAGATGCGTGAAATGGAAGAGAAC TTTGCCGTTGAAGCTGCTAACTACCAAGACACTATTGGCCGCCTGCAGGATG AGATTCAGAATATGAAGGAGGAAATGGCTCGTCACCTTCGTGAATACCAAGA CCTGCTCAATGTTAAGATGGCCCTTGACATTGAGATTGCCACCTACAGGAAG CTGCTGGAAGGCGAGGAGAGCAGGATTTCTCTGCCTCTTCCAAACTTTTCCT CCCTGAACCTGAGGGAAACTAATCTGGATTCACTCCCTCTGGTTGATACCCA CTCAAAAAGGACATTCCTGATTAAGACGGTTGAAACTAGAGATGGACAGGTT ATCAACGAAACTTCTCAGCATCACGATGACCTTGAATAA		NASLARLDLERKVESLQEEI AFLKKLHEEEIQELQAQIQE QHVQIDVDVSKPDLTAALR DVRQQYESVAAKNLQEAE EWYKSKFADLSEAANRNN DALRQAKQESTEYRRQVQ SLTCEVDALKGTNESLERQ MREMEENFAVEAANYQDTI GRLQDEIQNMKEEMARHL REYQDLLNVKMALDIEIATY RKLLEGEESRISLPLPNFSS LNLRETNLDSLPLVDTHSK RTFLIKTVETRDGQVINETS QHHDDLE*
Shigella ipaD	4	prey67571	102	CCNTANTATGGAGACTANCNCCNTGGTCCGCNCTGGAAGGATCACCTTATGT NCAGATGCAAGTTCTGATGCAGNAGGTCTGGCAGANCCCNCNACTCTGCN TTTCCNCAGGCTGGCAGTGGTGANGATGCTGCGGTCCAGGCAGGGAGCTG CTTTTGCAGGGTGAGGCGGTGGANGGCTGCAACACNCCCCNGACCCCNTCT CCNTTCTCAAATGCTGNGANGACTGGAATNNTCCATAGANNANGTTTCTTTTT TNTANNNNAAANTNATGAAN	303	PXYGDXXXGPXWKDHLMX RCKF*CXRSGQXPXLCXSX GWQW*XCCGPGRELLLQG EAVXGCNTPXTPSPFSNAX XTGXXHRXXFFFXXXXXE
Shigella ipaD	4	prey67572	103	TCCTTTNAGGATGNTGAAAAGANGAATATATGCTTGGGAGCATGNNGTATCT TTNTGGTAGCATNACGCCATGNCCTACTTGTGCTTNNNNCACTTNGTTTNNN NGGACTACAACATGGAGGAANTNNACCNNATCTACCCTNTAGGCCTGCTCNT GGTCTCCTTGNTGTATCATGCCCTCGCTGGTNTGGAGCCNNNGCGGGNCCT CTTGANTATGCTTCANCCATACCAACACTGGTTGTATGTACGCGATCGCAAC ATCANATGCACGTATGTTNCTTGCTGTACAGACGCTACNAGAGANGGGCTTC CCTGNATN	304	SFXDXEKXNICLGAXXIFXV AXRHXLLVLXXLXXXGLQH GGXXPXLPXRPAXGLLXVS CPRWXGAXAGPLXYASXIP TLVVCTRSQHXMHVCXLLY RRYXRXASLX
Shigella ipaD	4	prey65696	104	TGCTGCTGCCACCAACCACACCACTGATAATGGTGTGGGTCCTGAGGAAGA GAGCGTGGACCCAAATCAATACTACAAAATCCGCAGTCAAGCAATTCATCAG CTGAAGGTCAATGGGGAAGACCCATACCCACACAAGTTCCATGTAGACATCT CACTCACTGACTTCATCCAAAAATATAGTCACCTGCAGCCTGGGGATCACCT GACTGACATCACCTTAAAGGTGGCAGGTAGGATCCATGCCAAAAGAGCTTCT GGGGGAAAGCTCATCTTCTATGATCTTCGAGGAGAGGGGGTGAAGTTGCAA GTCATGGCCAATTCCAGAAATTATAAATCAGAAGAAGAATTTATTCATATTAAT AACAAACTGCGTCGGGGAGACATAATTGGAGTTCAGGGGAATCCTGGTAAAA CCAAGAAGGGTGAGCTGAGCATCATTCCGTATGAGATCACACTGCTGTCTCC CTGTTTGCATATGTTACCTCATCTTCACTTTGGGCTCAAAGACAAGGAAACAA	305	AAATNHTTDNGVGPEEESV DPNQYYKIRSQAIHQLKVN GEDPYPHKFHVDISLTDFIQ KYSHLQPGDHLTDITLKVA GRIHAKRASGGKLIFYDLR GEGVKLQVMANSRNYKSE EEFIHINNKLRRGDIIGVQG NPGKTKKGELSIIPYEITLLS PCLHMLPHLHFGLKDKETR YRQRYLDLILNDFVRQKFII

				GGTATCGCCAGAGATACTTGGACTTGATCCTGAATGACTTTGTGAGGCAGAA ATTTATCATCCGCTCTAAGATCATCACATATATAAGAAGTTTCTTAGATGAGCT GGGATTCCTAGAGATTGAAACTCCCATGATGAACATCATCCCAGGGGGAGC CGTGGCCAAGCCTTTCATCACTTATCACAACGAGCTGGACATGAACTTATATA TGAGAATTGCTCCAGAACTCTATCATAAGATGCTTGTGGTTGGTGGCATCGA CCGGGTTTATGAAATTGGACGCCAGTTCCGGAATGAGGGGATTGATTTGACG CACAATCCTGAGTTCACCACCTGTGAGTTCTACATGGCCTATGCAGACTATC ACGATCTCATGGAAATCACGGAGAAGATGGTTTCAGGGATGGTGAAGCATAT TACAGGCAGTTACAAGGTCACCTACCACCCAGATGGCCCAGAGGGCCAAGC CTACGATGTTGACTTCACCCCACCCTTCCGGCGAATCAACATGGTAGAAGAG CTTGAGAAAGCCCTGGGGATGAAGCTGCCAGAAACGAACCTCTTTGAAACTG AAGAAACTCGCAAAATTCTTGATGATATCTGTGTGGCAAAAGCTGTTGAATGC CCTCCACCTCGGACCACAGCCAGGCTCCTTGACAAGCTTGTTGGGGAGTTC CTGGAAGTGACTTGCATCAATCCTACATTCATCTGTGATCACCCACAGATAAT GAGCCCTTTGGCTAAATGGCACCGCTCTAAAGAGGGTCTGACTGAGCGCTTT GAGCTGTTTGTCATGAAGAAAGAGATATGCAATGCGTATACTGAGCTGAATG ATCCCATGCGGCAGCGGCAGCTTTTTGAAGAACAGGCCAAGGCCAAGGCTG CAGGTGATGATGAGGCCATGTTCATAGATGAAAACTTCTGTACTGCCCTGGA ATATGGGCTGCCCCCCACAGCTGGCTGGGGCATGGGCATTGATCGAGTCGC CATGTTTCTCACGGACTCCAACAACATCAAGGAAGTACTTCTGTTTCCTGCCA TGAAACCCGAAGACAAGAAGGAGAATGTAGCAACCACTGATACACTGGAAAG CACAACAGTTGGCACTTCTGTCTAG		RSKIITYIRSFLDELGFLEIET PMMNIIPGGAVAKPFITYHN ELDMNLYMRIAPELYHKML VVGGIDRVYEIGRQFRNEGI DLTHNPEFTTCEFYMAYAD YHDLMEITEKMVSGMVKHI TGSYKVTYHPDGPEGQAY DVDFTPPFRRINMVEELEK ALGMKLPETNLFETEETRKI LDDICVAKAVECPPPRTTA RLLDKLVGEFLEVTCINPTFI CDHPQIMSPLAKWHRSKE GLTERFELFVMKKEICNAYT ELNDPMRQRQLFEEQAKA KAAGDDEAMFIDENFCTAL EYGLPPTAGWGMGIDRVA MFLTDSNNIKEVLLFPAMKP EDKKENVATTDTLESTTVG TSV*
Shigella ipaD	4	prey8889	105	GCTCAAGCCGGAGTTCATGCGGCGGCCGGACAAGTCCTTCGACCCCTTCAC TGAGGTCATCGTGGATGGCATCGTGGCCAATGCCTTGCGGGTCAAGGTGAT CTCAGGGCAGTTCCTGTCCGACAGGAAGGTGGGCATCTACGTGGAGGTGGA CATGTTTGGCCTCCCTGTTGATACGCGGCGCAAGTACCGCACCCGGACCTC TCAGGGGAACTCGTTCAACCCCGTGTGGGACGAAGAGCCCTTCGACTTCCC CAAGGTGGTGCTGCCCACGCTGGCTTCACTTCGCATTGCAGCCTTTGAGGA GGGGGGTAAATTCGTAGGGCACCGGATCCTGCCTGTCTCTGCCATCCGCTC CGGATACCACTACGTCTGCCTGCGGAACGAGGCCAACCAACCGCTGTGCCT GCCGGCCCTGCTCATCTACACCGAAGCCTCGGACTACATTCCTGACGACCA CCAGGACTATGCGGAGGCCCTGATCAACCCCATTAAGCACGTCAGCCTGAT GGACCAGAGGGCCCGGCAGCTGGCCGCCCTCATTGGGGAGAGTGAGGCTC AGGCTGGCCAAGAGACGTGCCAGGACACCCAGTCTCAGCAGCTGGGGTCT CAGCCGTCCTCAAACCCCACCCCCAGCCCACTGGATGCCTCCCCCCGCCGG CCCCCTGGCCCCACCACCTCCCCTGCCAGCACCTCCCTCAGCAGCCCAGG GCAGCGTGATGATCTCATCGCCAGCATCCTCTCAGAGGTGGCCCCCACCCC GCTGGATGAGCTCCGAGGTCACAAGGCTCTGGTCAAGCTCCGGAGCCGGC AAGAGCGAGACCTGCGGGAGCTGCGCAAGAAGCATCAGCGGAAGGCAGTC	306	LKPEFMRRPDKSFDPFTEV IVDGIVANALRVKVISGQFL SDRKVGIYVEVDMFGLPVD TRRKYRTRTSQGNSFNPV WDEEPFDFPKVVLPTLASL RIAAFEEGGKFVGHRILPVS AIRSGYHYVCLRNEANQPL CLPALLIYTEASDYIPDDHQ DYAEALINPIKHVSLMDQRA RQLAALIGESEAQAGQETC QDTQSQQLGSQPSSNPTP SPLDASPRRPPGPTTSPAS TSLSSPGQRDDLIASILSEV APTPLDELRGHKALVKLRS RQERDLRELRKKHQRKAV TLTRRLLDGLAQAQAEGRC RLRPGALGGAADVEDTKE

				ACCCTCACCCGCCGCCTGCTGGATGGCCTGGCTCAGGCACAGGCTGAGGG CAGGTGCCGGCTGCGGCCAGGTGCCCTAGGTGGGGCCGCTGATGTGGAGG ACACGAAGGAGGGGGAGGACGAGGCAAAGCGGTATCAGGAGTTCCAGAAC AGACAGGTGCAGAGCCTGCTGGAGCTGCGGGAGGCCCAGGTGGACGCAGA GGCCCAGCGGAGGCTGGAACACCTGAGACAGGCTCTGCAGCGGCTCAGGG AGGTCGTCCTTGATGCAAACACAACTCAGTTCAAGAGGCTGAAAGAGATGAA CGAGAGGGAGAAGAAGGAGCTGCAGAAGATCCTGGACAGAAAGCGCCATAA CAGCATCTCGGAGGCCAAGATGAGGGACAAGCATAAGAAGGAGGCGGAACT GACGGAGATTAACCGTCGGCACATCACTGAGTCAGTCAACTCCATCCGTCG GCTGGAGGAGGCCCAGAAGCAGCGGCATGACCGTCTTGTGGCTGGGCAGC AGCAGGTCCTGCAACAGCTGGCAGAAGAGGAGCCCAAGCTGCTGGCCCAG CTGGCCCAGGAGTGTCAGGAGCAGCGGGCGAGGCTCCCCCAGGAGATCCG CCGGAGCCTGCTGGGCGAGATGCCGGAGGGGCTGGGGGACGGGCCTCTG GTGGCCTGTGCCAGCAACGGTCACGCACCCGGGAGCAGCGGGCACCTGTC GGGCGCTGACTCGGAGAGCCAGGAGGAGAACACGCAGCTCTGA		GEDEAKRYQEFQNRQVQS LLELREAQVDAEAQRRLEH LRQALQRLREVVLDANTTQ FKRLKEMNEREKKELQKIL DRKRHNSISEAKMRDKHKK EAELTEINRRHITESVNSIR RLEEAQKQRHDRLVAGQQ QVLQQLAEEEPKLLAQLAQ ECQEQRARLPQEIRRSLLG EMPEGLGDGPLVACASNG HAPGSSGHLSGADSESQE ENTQL*
Shigella ipaD	4	prey700	106	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGCCTTTGCCAGATCTACAGACCAGACCGTTCTAGAAGAATTAGCTTCCAT TAAGAATAGACAAAGAATTCAGAAATTGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAAACAACACAACAGTTATACCCAAGTTTACTTGAAAGAAATCCTAA TCTCCTTTTCACATTAAAAGTGCGTCAGTTTATAGAAATGGTGAATGGTACAG ATAGTGAAGTACGATGTTTGGGAGGCCGAAGTCCAAAGTCTCAAGACAGTTA TCCTGTTAGTCCTCGACCTTTTAGTAGTCCAAGTATGAGCCCCAGCCATGGA ATGAATATCCACAATTTAGCATCAGGCAAAGGAAGCACCGCACATTTTTCAG GTTTTGAAAGTTGTAGTAATGGTGTAATATCAAATAAAGCACATCAATCATATT GCCATAGTAATAAACACCAGTCATCCAACTTGAATGTACCAGAACTAAACAGT ATAAATATGTCAAGATCACAGCAAGTTAATAACTTCACCAGTAATGATGTAGA CATGGAAACAGATCACTACTCCAATGGAGTTGGAGAAACTTCATCCAATGGT TTCCTAAATGGTAGCTCTAAACATGACCACGAAATGGAAGATTGTGACACCG AAATGGAAGTTGATTCAAGTCAGTTGAGACGCCAGTTGTGTGGAGGAAGTCA GGCCGCCATAGAAAGAATGATCCACTTTGGACGAGAGCTGCAAGCAATGAG TGAACAGCTAAGGAGAGACTGTGGCAAGAACACTGCAAACAAAAAAATGTTG	307	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAIETTQQLYPSLLERN PNLLFTLKVRQFIEMVNGT DSEVRCLGGRSPKSQDSY PVSPRPFSSPSMSPSHGM NIHNLASGKGSTAHFSGFE SCSNGVISNKAHQSYCHSN KHQSSNLNVPELNSINMSR SQQVNNFTSNDVDMETDH YSNGVGETSSNGFLNGSS KHDHEMEDCDTEMEVDSS QLRRQLCGGSQAAIERMIH FGRELQAMSEQLRRDCGK NTANKKMLKDAFSLLAYSD PWNSPVGNQLDPIQREPV

				AAGGATGCATTCAGTCTACTAGCATATTCAGATCCCTGGAACAGCCCAGTTG GAAATCAGCTTGACCCGATTCAGAGAGAACCTGTGTGCTCAGCTCTTAACAG TGCAATATTAGAAACCCACAATCTGCCAAAGCAACCTCCACTTGCCCTAGCA ATGGGACAGGCCACACAATGTCTAGGACTGATGGCTCGATCAGGAATTGGA TCCTGCGCATTTGCCACAGTGGAAGACTACCTACATTAG		CSALNSAILETHNLPKQPPL ALAMGQATQCLGLMARSGI GSCAFATVEDYLH*
Shigella ipaD	4	prey2694	107	ATGGCACACGCTATGGAAAACTCCTGGACAATCAGTAAAGAGTACCATATTG ATGAAGAAGTGGGCTTTGCTCTGCCAAATCCACAGGAAAATCTACCTGATTTT TATAATGACTGGATGTTCATTGCTAAACATCTGCCTGATCTCATAGAGTCTGG CCAGCTTCGAGAAAGAGTTGAGAAGTTAAACATGCTCAGCATTGATCATCTC ACAGACCACAAGTCACAGCGCCTTGCACGTCTAGTTCTGGGATGCATCACCA TGGCATATGTGTGGGGCAAAGGTCATGGAGATGTCCGTAAGGTCTTGCCAA GAAATATTGCTGTTCCTTACTGCCAACTCTCCAAGAAACTGGAACTGCCTCCT ATTTTGGTTTATGCAGACTGTGTCTTGGCAAACTGGAAGAAAAAGGATCCTAA TAAGCCCCTGACTTATGAGAACATGGACGTTTTGTTCTCATTTCGTGATGGAG ACTGCAGTAAAGGATTCTTCCTGGTCTCTCTATTGGTGGAAATAGCAGCTGC TTCTGCAATCAAAGTAATTCCTACTGTATTCAAGGCAATGCAAATGCAAGAAC GGGACACTTTGCTAAAGGCGCTGTTGGAAATAGCTTCTTGCTTGGAGAAAGC CCTTCAAGTGTTTCACCAAATCCACGATCATGTGAACCCAAAAGCATTTTTCA GTGTTCTTCGCATATATTTGTCTGGCTGGAAAGGCAACCCCCAGCTATCAGA CGGTCTGGTGTATGAAGGGTTCTGGGAAGACCCAAAGGAGTTTGCAGGGGG CAGTGCAGGCCAAAGCAGCGTCTTTCAGTGCTTTGACGTCCTGCTGGGCAT CCAGCAGACTGCTGGTGGAGGACATGCTGCTCAGTTCCTCCAGGACATGAG AAGATATATGCCACCAGCTCACAGGAACTTCCTGTGCTCATTAGAGTCAAAT CCCTCAGTCCGTGAGTTTGTCCTTTCAAAAGGTGATGCTGGCCTGCGGGAA GCTTATGACGCCTGTGTGAAAGCTCTGGTCTCCCTGAGGAGCTACCATCTGC AAATCGTGACTAAGTACATCCTGATTCCTGCAAGCCAGCAGCCAAAGGAGAA TAAGACCTCTGAAGACCCTTCAAAACTGGAAGCCAAAGGAACTGGAGGCACT GATTTAATGAATTTCCTGAAGACTGTAAGAAGTACAACTGAGAAATCCCTTTT GAAGGAAGGTTAA	308	MAHAMENSWTISKEYHIDE EVGFALPNPQENLPDFYND WMFIAKHLPDLIESGQLRE RVEKLNMLSIDHLTDHKSQ RLARLVLGCITMAYVWGKG HGDVRKVLPRNIAVPYCQL SKKLELPPILVYADCVLANW KKKDPNKPLTYENMDVLFS FRDGDCSKGFFLVSLLVEIA AASAIKVIPTVFKAMQMQE RDTLLKALLEIASCLEKALQ VFHQIHDHVNPKAFFSVLRI YLSGWKGNPQLSDGLVYE GFWEDPKEFAGGSAGQSS VFQCFDVLLGIQQTAGGGH AAQFLQDMRRYMPPAHRN FLCSLESNPSVREFVLSKG DAGLREAYDACVKALVSLR SYHLQIVTKYILIPASQQPKE NKTSEDPSKLEAKGTGGTD LMNFLKTVRSTTEKSLLKE G*
Shigella ipaD	4	prey53735	108	GGGTGAACCAGAAGGTTCCTTCGTGGATTACCAAACAACTATGGTGCGGACA GCCAAGGCCATTGCAGTGACCGTTCAGGAGATGGTTACCAAGTCAAACACC AGCCCAGAGGAGCTGGGCCCTCTTGCTAACCAGCTGACCAGTGACTATGGC CGTCTGGCCTCGGAGGCCAAGCCTGCAGCGGTGGCTGCTGAAAATGAAGA GATAGGTTCCCATATCAAACACCGGGTACAGGAGCTGGGCCATGGCTGTGC CGCTCTGGTCACCAAGGCAGGCGCCCTGCAGTGCAGCCCCAGTGATGCCTA CACCAAGAAGGAGCTCATAGAGTGTGCCCGGAGAGTCTCTGAGAAGGTCTC CCACGTCCTGGCTGCGCTCCAGGCTGGGAATCGTGGCACCCAGGCCTGCAT CACAGCAGCCAGCGCTGTGTCTGGTATCATTGCTGACCTCGACACCACCATC ATGTTCGCCACTGCTGGCACGCTCAATCGTGAGGGTACTGAAACTTTCGCTG	309	GEPEGSFVDYQTTMVRTA KAIAVTVQEMVTKSNTSPE ELGPLANQLTSDYGRLASE AKPAAVAAENEEIGSHIKHR VQELGHGCAALVTKAGALQ CSPSDAYTKKELIECARRV SEKVSHVLAALQAGNRGT QACITAASAVSGIIADLDTTI MFATAGTLNREGTETFADH REGILKTAKVLVEDTKVLVQ

				ACCACCGGGAGGGCATCCTGAAGACTGCGAAGGTGCTGGTGGAGGACACC AAGGTCCTGGTGCAAAACGCAGCTGGGAGCCAGGAGAAGTTGGCGCAGGC TGCCCAGTCCTCCGTGGCGACCATCACCCGCCTCGCTGATGTGGTCAAGCT GGGTGCAGCCAGCCTGGGAGCTGAGGACCCTGAGACCCAGGTGGTACTAA TCAACGCAGTGAAAGATGTAGCCAAAGCCCTGGGAGACCTCATCAGTGCAA CGAAGGCTGCAGCTGGCAAAGTTGGAGATGACCCTGCTGTGTGGCAGCTAA AGAACTCTGCCAAGGTGATGGTGACCAATGTGACATCATTGCTTAAGACAGT AAAAGCCGTGGAAGATGAGGCCACCAAAGGCACTCGGGCCCTGGAGGCAA CCACAGAACACATACGGCAGGAGCTGGCGGTTTTCTGTTCCCCAGAGCCAC CTGCCAAGACCTCTACCCCAGAAGACTTCATCCGAATGACCAAGGGTATCAC CATGGCAACCGCCAAGGCCGTTGCTGCTGGCAATTCCTGTCGCCAGGAAGA TGTCATTGCCACAGCCAATCTGAGCCGCCGTGCTATTGCAGATATGCTTCGG GCTTGCAAGGAAGCAGCTTACCACCCAGAAGTGGCCCCTGATGTGCGGCTT CGAGCCCTGCACTATGGCCGGGAGTGTGCCAATGGCTACCTGGAACTGCTG GACCATGTACTGCTGACCCTGCAGAAGCCAAGCCCAGAACTGAAGCAGCAG TTGACAGGACATTCAAAGCGTGTGGCTGGTTCCGTCACTGAGCTCATCCAGG CTGCTGAAGCCATGAAGGGAACAGAATGGGTAGACCCAGAGGACCCCACAG TCATTGCTGAGAATGAGCTCCTGGGAGCTGCAGCCGCCATTGAGGCTGCAG CCAAAAAGCTAGAGCAGCTGAAGCCCCGGGCCAAACCCAAGGAGGCAGATG AGTCCTTGAACTTTGAGGAGCAGATACTAGAAGCTGCCAAGTCCATTGCAGC AGCCACCAGTGCACTGGTAAAGGCTGCGTCGGCTGCCCAGAGAGAACTAGT GGCCCAAGGGAAGGTGGGTGCCATTCCAGCCAATGCACTGGACGATGGGC AGTGGTCCCAGGGCCTCATTTCTGCTGCCCGGATGGTGGCTGCGGCCACCA ACAATCTGTGTGAGGCAGCCAATGCAGCTGTACAAGGCCATGCCAGCCAGG AGAAGCTCATCTCATCAGCCAAGCAGGTAGCTGCCTCCACAGCCCAGCTCC TTGTGGCCTGCAAGGTCAAGGCTGACCAGGACTCGGAGGCAATGAAACGAC TTCAGGCTGCTGGCAACGCAGTGAAGCGAGCCTCAGATAATCTGGTGAAAG CAGCACAGAAGGCTGCAGCCTTTGAAGAGCAGGAGAATGAGACAGTGGTGG TGAAAGAGAAGATGGTTGGCGGCATTGCCCAGATCATCGCAGCACAGGAAG AAATGCTTCGGAAGGAACGAGAGCTGGAAGAGGCGCGGAAGAAACTGGCC CAGATCCGGCAGCAGCAGTACAAGTTTCTGCCTTCAGAGCTTCGAGATGAG CACTAA		NAAGSQEKLAQAAQSSVA TITRLADVVKLGAASLGAED PETQVVLINAVKDVAKALG DLISATKAAAGKVGDDPAV WQLKNSAKVMVTNVTSLLK TVKAVEDEATKGTRALEAT TEHIRQELAVFCSPEPPAKT STPEDFIRMTKGITMATAKA VAAGNSCRQEDVIATANLS RRAIADMLRACKEAAYHPE VAPDVRLRALHYGRECAN GYLELLDHVLLTLQKPSPEL KQQLTGHSKRVAGSVTELI QAAEAMKGTEWVDPEDPT VIAENELLGAAAAIEAAAKK LEQLKPRAKPKEADESLNF EEQILEAAKSIAAATSALVK AASAAQRELVAQGKVGAIP ANALDDGQWSQGLISAAR MVAAATNNLCEAANAAVQ GHASQEKLISSAKQVAAST AQLLVACKVKADQDSEAM KRLQAAGNAVKRASDNLVK AAQKAAAFEEQENETVVVK EKMVGGIAQIIAAQEEMLRK ERELEEARKKLAQIRQQQY KFLPSELRDEH*
Shigella ipaD	4	prey67574	109	NNACAGGAGANTGAGTTGCAANCGGCGGGTGATGCNNNTCTACCNGNNCGT GNACGANCCACAGACGCCNCTNCCTGGGTCCTGGGATNCCAAACNACANNN NCATNTACNTTNGTCTNTGTCAGANCANNCTGNGGNTGCACTNCNNNCGTCA TTGCTTAACNNNACNAGATGCCNCGTCATTTCNAGNCACNCATACAATACCA CNTGCNTGNGTGATTTNTTTTTTNGANNTGCCAATTNTGATGAAGGGAACATA TNTNTTCATGGGAATTGGTCTTTCTGTTNANNGTNTNAACAC	310	XQEXELQXAGDAXLPXRXR XTDAXXWVLGXQTTXXXTX VXVRXXXGCTXXVIA*XXX MPRHFXXXIQYHXXX*FXFX XCQX**REHXXSWELVFLX XVXT
Shigella	5	prey67509	110	GCTACTCACCCACCTCTCCCAGCTACTCGCCCACCTCTCCCAGCTATTCGCC	311	YSPTSPSYSPTSPSYSPTS

ipaC				CACCTCTCCCAGCTACTCACCCACTTCCCCTAGCTATTCGCCCACTTCCCCTAGCTACTCGCCAACGTCTCCCAGCTACTCGCCGACATCTCCCAGCTACTCGCCAACTTCACCCAGCTATTCTCCCACTTCTCCCAGCTACTCACCTACCTCTCCAAGCTATTCACCCACCTCCCCCAGCTACTCACCCACTTCCCCAAGTTACTCACCCACCAGCCCGAACTATTCTCCAACCAGTCCCAATTACACCCCAACATCACCCAGCTACAGCCCGACATCACCCAGCTATTCCCCTACTAGTCCCAACTACACACCTACCAGCCCTAACTACAGCCCAACCTCTCCAAGCTACTCTCCAACATCACCCAGCTATTCCCCGACCTCACCAAGTTACTCCCCTTCCAGCCCACGATACACACCACAGTCTCCAACCTATACCCCAAGCTCACCCAGCTACAGCCCCAGTTCGCCCAGCTACAGCCCAACCTCACCCAAGTACACCCCAACCAGTCCTTCTTATAGTCCCAGCTCCCCAGAGTATACCCCAACCTCTCCCAAGTACTCACCTACCAGTCCCAAATATTCACCCACCTCTCCCAAGTACTCGCCTACCAGTCCCACCTATTCACCCACCACCCCAAAATACTCCCCAACATCTCCTACTTATTCCCCAACCTCTCCAGTCTACACCCCAACCTCTCCCAAGTACTCACCTACTAGCCCCACTTACTCGCCCACTTCCCCCAAGTACTCGCCCACCAGCCCCACCTACTCGCCCACCTCCCCCAAAGGCTCAACCTACTCTCCCACTTCCCCTGGTTACTCGCCCACCAGCCCCACCTACAGTCTCACAAGCCCGGCTATCAGCCCGGATGACAGTGACGAGGAGAACTGA		PSYSPTSPSYSPTSPSYSPTSPSYSPTSPSYSPTSPSYSPTSPSYSPTSPSYSPTSPSYSPTSPSYSPTSPNYSPTSPNYTPTSPSYSPTSPSYSPTSPNYTPTSPNYSPTSPSYSPTSPSYSPTSPSYSPSSPRYTPQSPTYTPSSPSYSPSSPSYSPTSPKYTPTSPSYSPSSPEYTPTSPKYSPTSPKYSPTSPKYSPTSPTYSPTTPKYSPTSPTYSPTSPVYTPTSPKYSPTSPTYSPTSPKYSPTSPTYSPTSPKGSTYSPTSPGYSPTSPTYSLTSPAISPDDSDEEN*
Shigella ipaC	5	prey67514	111	ATGCACAAGGAGGAACATGAGGTGGCTGTGCTGGGGGCACCCCCCAGCACCATCCTTCCAAGGTCCACCGTGATCAACATCCACAGCGAGACCTCCGTGCCCGACCATGTCGTCTGGTCCCTGTTCAACACCCTCTTCTTGAACTGGTGCTGTCTGGGCTTCATAGCATTCGCCTACTCCGTGAAGTCTAGGGACAGGAAGATGGTTGGCGACGTGACCGGGGCCCAGGCCTATGCCTCCACCGCCAAGTGCCTGAACATCTGGGCCCTGATTCTGGGCATCCTCATGACCATTGGATTCATCCTGTCACTGGTATTCGGCTCTGTGACAGTCTACCATATTATGTTACAGATAATACAGGAAAAACGGGGTTACTAG	312	MHKEEHEVAVLGAPPSTILPRSTVINIHSETSVPDHVVWSLFNTLFLNWCCLGFIAFAYSVKSRDRKMVGDVTGAQAYASTAKCLNIWALILGILMTIGFILSLVFGSVTVYHIMLQIIQEKRGY*
Shigella ipaC	5	prey2926	112	ATGGAGAAAACTTGTATAGATGCACTTCCTCTTACTATGAATTCTTCAGAAAAGCAAGAGACTGTATGTATTTTTGGAACTGGTGATTTTGGAAGATCACTGGGATTGAAAATGCTCCAGTGTGGTTATTCTGTTGTTTTTGGAAGTCGAAACCCCCAGAAGACCACCCTACTGCCCAGTGGTGCAGAAGTCTTGAGCTATTCAGAAGCAGCCAAGAAGTCTGACATCATAATCATAGCAATCCACAGAGAGCATTATGATTTTCTCACAGAATTAACTGAGGTTCTCAATGGAAAAATATTGGTAGACATCAGCAACAACCTCAAAATCAATCAATATCCAGAATCTAATGCAGAGTACCTTGCTCATTTGGTGCCAGGAGCCCACGTGGTAAAAGCATTTAACACCATCTCAGCCTGGGCTCTCCAGTCAGGAGCACTGGATGCAAGTCGGCAGGTGTTTGTGTGTGGAAATGACAGCAAAGCCAAGCAAAGAGTGATGGATATTGTTCGTAATCTTGGACTTACTCCAATGGATCAAGGATCACTCATGGCAGCCAAAGAAATTGAAAAGTACCCCCCTGCAGCTATTTCCAATGTGGAGGTTCCCCTTCTATTTGTCTGCTGTGCTGTGTGTCTTCTTGTTTTTCTATTGTGTTATAAGAGACGTAATCTACCCTTAT	313	MEKTCIDALPLTMNSSEKQETVCIFGTGDFGRSLGLKMLQCGYSVVFGSRNPQKTTLLPSGAEVLSYSEAAKKSDIIIAIHREHYDFLTELTEVLNGKILVDISNNLKINQYPESNAEYLAHLVPGAHVVKAFNTISAWALQSGALDASRQVFVCGNDSKAKQRVMDIVRNLGLTPMDQGSLMAAKEIEKYPLQLFPMWRFPFYLSAVLCVFLFFYCVIRDVIYPYVYEKKDNTFRMAISIPNRIFPITAPYT

				GTTTATGAAAAGAAAGATAATACATTTCGTATGGCTATTTCCATTCCAAATCGTATCTTTCCAATAACAGCACCTTACACTGCTTGCTTTGGTTTACCTCCCTGGTGTTATTGCTGCCATTCTACAACTGTACCGAGGCACAAAATACCGTCGATTCCCAGACTGGCTTGA		ACFGLPPWCYCCHSTTVPRHKIPSIPRLA*
Shigella ipaC	5	prey4458	113	CCAGGACGTCCAGGCCAGCCAGGCGGAGGCTGACCAGCAGCAGACTCGCCTCAAGGAGCTGGAGTCCCAGGTGTCGGGTCTGGAGAAGGAGGCCATCGAGCTCAGGGAGGCCGTCGAGCAGCAGAAAGTGAAGAACAATGACCTCCGGGAGAAGAACTGGAAGGCCATGGAGGCACTGGCCACGGCCGAGCAGGCCTGCAAGGAGAAGCTGCACTCCCTGACCCAGGCCAAGGAGGAATCGGAGAAGCAGCTCTGTCTGATTGAGGCGCAGACCATGGAGGCCCTGCTGGCTCTGCTCCCAGAACTCTCTGTCTTGGC	314	QDVQASQAEADQQQTRLKELESQVSGLEKEAIELREAVEQQKVKNNDLREKNWKAMEALATAEQACKEKLHSLTQAKEESEKQLCLIEAQTMEALLALLPELSVL
Shigella ipaC	5	prey4458	114	GGCCGAGGAGACGCAGAGCACACTGCAGGCCGAGTGTGACCAGTACCGCAGCATCCTGGCGGAGACGGAGGGCATGCTCAGAGACCTGCAGAAGAGCGTGGAGGAGGAGGAGCAGGTGTGGAGGGCCAAGGTGGGCGCCGCAGAGGAGGAGCTCCAGAAGTCCCGGGTCACAGTGAAGCATCTCGAAGAGATTGTAG	315	AEETQSTLQAECDQYRSILAETEGMLRDLQKSVEEEEQVWRAKVGAAEEELQKSRVTVKHLEEIV
Shigella ipaC	5	prey67522	115	GANGAATNCNNTATGCCAAAAGGACAAGGAGGTATTGGTNGCTTANGCTGGCTATGAATACNTCNTTCTGTTTGTGATANTCTATTTCTTACACCNTCNGGCATGGTAGGCAANNGCCACAGTANATGCCACATCTATGAGGCTGNNGCNGCATACTCGCCGTGTCTANCTACATCCTNGTTANNGGNTGNGGCCCGNNCGGTTCCTNCCGATTNTGTTCNGGNCACAGCCTGGTGTNTGACANCTCGGACCGCGNTNACTATNACCTCCTGGAGGACCTACCACGAANGCATGCTNACCCTGGTGGGGAGGCTGGAAGG	316	XEXXMPKGQGGIGXLXWL*IXXSVCDXLFLTPSGMVGXXHSXCHIYEAXAAYSPCLXTSXLXXXARXVPXDXVXXTAWCXTXRTAXTXTSWRTYHEXMLTLVGRLE
Shigella ipaC	5	prey527	116	CATGACTGCAGACCTTCCTAATGAACTCATTGAACTGCTGGAGAAAATTGTCCTTGATAACTCTGTATTCAGTGAACACAGGAATCTGCAAAACCTCCTTATCCTCACTGCAATTAAGGCTGACCGTACACGTGTTATGGAGTATATTAACCGCCTGGATAATTATGATGCCCCAGATATTGCCAATATCGCCATCAGCAATGAGCTGTTTGAAGAAGCATTTGCCATTTTCCGGAAATTTGATGTCAATACTTCAGCAGTTCAGGTCTTAATTGAGCATATTGGAAACTTGGATCGGGCATATGAGTTTGCTGAACGTTGCAATGAACCTGCGGTCTGGAGTCAACTTGCAAAAGCCCAGTTGCAGAAAGGAATGGTGAAAGAAGCCATTGATTCTTATATCAAAGCAGATGATCCTTCCTCCTACATGGAAGTTGTTCAGGCTGCCAATACTAGTGGAAACTGGGAAGAACTGGTGAAGTACTTGCAGATGGCCCGTAAGAAGGCTCGAGAGTCCTATGTGGAGACAGAACTGATATTCGCACTGGCTAAAACAAACCGC	317	MTADLPNELIELLEKIVLDNSVFSEHRNLQNLLILTAIKADRTRVMEYINRLDNYDAPDIANIAISNELFEEAFAIFRKFDVNTSAVQVLIEHIGNLDRAYEFAERCNEPAVWSQLAKAQLQKGMVKEAIDSYIKADDPSSYMEVVQAANTSGNWEELVKYLQMARKKARESYVETELIFALAKTNR
Shigella ipaC	5	prey53735	117	TGCAGTCCAAGAGATCTCCCATCTCATTGAGCCGCTGGCCAATGCTGCCCGGGCTGAAGCCTCCCAGCTGGGACACAAGGTGTCCCAGATGGCGCAGTACTTTGAGCCGCTCACCCTGGCTGCAGTGGGTGCTGCCTCCAAGACCCTGAGCCACCCGCAGCAGATGGCACTCCTGGACCAGACTAAAACATTGGCAGAGTCTGCCCTGCAGTTGCTATACACTGCCAAGGAGGCTGGTGGTAACCCAAAGCAAGCAGCTCACACCCAGGAAGCCCTGGAGGAGGCTGTGCAGATGATGACCGAGG	318	AVQEISHLIEPLANAARAEASQLGHKVSQMAQYFEPLTLAAVGAASKTLSHPQQMALLDQTKTLAESALQLLYTAKEAGGNPKQAAHTQEALEEAVQMMTEAVEDLTTTLNEAA

				CCGTAGAGGACCTGACAACAACCCTCAACGAGGCAGCCAGTGCTGCTGGGG TCGTGGGTGGCATGGTGGACTCCATCACCCAGGCCATCAACCAGCTAGATG AAGGACCAATGGGTGAACCAGAAGGTTCCTTCGTGGATTACCAAACAACTAT GGTGCGGACAGCCAAGGCCATTGCAGTGACCGTTCAGGAGATGGTTACCAA GTCAAACACCAGCCCAGAGGAGCTGGGCCCTCTTGCTAACCAGCTGACCAG TGACTATGGCCGTCTGGCCTCGGAGGCCAAGCCTGCAGCGGTGGCTGCTG AAAATGAAGAGATAGGTTCCCATATCAAACACCGGGTACAGGAGCTGGGCC ATGGCTGTGCCGCTCTGGTCACCAAGGCAGGCGCCCTGCAGTGCAGCCCC AGTGATGCCTACACCAAGAAGGAGCTCATAGAGTGTGCCCGGAGAGTCTCT GAGAAGGTCTCCCACGTCCTGGCTGCGCTCCAGGCTGGGAATCGTGGCACC CAGGCCTGCATCACAGCAGCCAGCGCTGTGTCTGGTATCATTGCTGACCTC GACACCACCATCATGTTCGCCACTGCTGGCACGCTCAATCGTGAGGGTACT GAAACTTTCGCTGACCACCGGGAGGGCATCCTGAAGACTGCGAAGGTGCTG GTGGAGGACACCAAGGTCCTGGTGCAAAACGCAGCTGGGAGCCAGGAGAA GTTGGCGCAGGCTGCCCAGTCCTCCGTGGCGACCATCACCCGCCTCGCTGA TGTGGTCAAGCTGGGTGCAGCCAGCCTGGGAGCTGAGGACCCTGAGACCC AGGTGGTACTAATCAACGCAGTGAAAGATGTAGCCAAAGCCCTGGGAGACC TCATCAGTGCAACGAAGGCTGCAGCTGGCAAAGTTGGAGATGACCCTGCTG TGTGGCAGCTAAAGAACTCTGCCAAGGTGATGGTGACCAATGTGACATCATT GCTTAAGACAGTAAAAGCCGTGGAAGATGAGGCCACCAAAGGCACTCGGGC CCTGGAGGCAACCACAGAACACATACGGCAGGAGCTGGCGGTTTTCTGTTC CCCAGAGCCACCTGCCAAGACCTCTACCCCAGAAGACTTCATCCGAATGAC CAAGGGTATCACCATGGCAACCGCCAAGGCCGTTGCTGCTGGCAATTCCTG TCGCCAGGAAGATGTCATTGCCACAGCCAATCTGAGCCGCCGTGCTATTGC AGATATGCTTCGGGCTTGCAAGGAAGCAGCTTACCACCCAGAAGTGGCCCC TGATGTGCGGCTTCGAGCCCTGCACTATGGCCGGGAGTGTGCCAATGGCTA CCTGGAACTGCTGGAC		SAAGVVGGMVDSITQAINQ LDEGPMGEPEGSFVDYQT TMVRTAKAIAVTVQEMVTK SNTSPEELGPLANQLTSDY GRLASEAKPAAVAAENEEI GSHIKHRVQELGHGCAALV TKAGALQCSPSDAYTKKELI ECARRVSEKVSHVLAALQA GNRGTQACITAASAVSGIIA DLDTTIMFATAGTLNREGT ETFADHREGILKTAKVLVED TKVLVQNAAGSQEKLAQAA QSSVATITRLADVVKLGAAS LGAEDPETQVVLINAVKDV AKALGDLISATKAAAGKVG DDPAVWQLKNSAKVMVTN VTSLLKTVKAVEDEATKGT RALEATTEHIRQELAVFCSP EPPAKTSTPEDFIRMTKGIT MATAKAVAAGNSCRQEDVI ATANLSRRAIADMLRACKE AAYHPEVAPDVRLRALHYG RECANGYLELLD
Shigella ipaC	5	prey53735	118	CAGTGATGTGCTGGACAAGGCCAGCAGCCTCATTGAGGAGGCGAAAAAGGC AGCTGGCCATCCAGGGGACCCTGAGAGCCAGCAGCGGCTTGCCCAGGTGG CTAAAGCAGTGACCCAGGCTCTGAACCGCTGTGTCAGCTGCCTACCTGGCC AGCGCGATGTGGATAATGCCCTGAGGGCAGTTGGAGATGCCAGCAAGCGAC TCCTGAGTGACTCGCTTCCTCCTAGCACTGGGACATTTCAAGAAGCTCAGAG CCGGTTGAATGAAGCTGCTGCTGGGCTGAATCAGGCAGCCACAGAACTGGT GCAGGCCTCTCGGGGAACCCCTCAGGACCTGGCTCGAGCCTCAGGCCGAT TTGGACAGGACTTCAGCACCTTCCTGGAAGCTGGTGTGGAGATGGCAGGCC AGGCTCCGAGCCAGGAGGACCGAGCCCAAGTTGTGTCCAACTTGAAGGGCA TCTCCATGTCTTCAAGCAAACTTCTTCTGGCTGCCAAGGCCCTGTCCACGGA CCCTGCTGCCCCTAACCTCAAGAGTCAGCTGGCTGCAGCTGCCAGGGCAGT AACTGACAGCATCAATCAGCTCATCACTATGTGCACCCAGCAGGCACCCGG	319	SDVLDKASSLIEEAKKAAG HPGDPESQQRLAQVAKAV TQALNRCVSCLPGQRDVD NALRAVGDASKRLLSDSLP PSTGTFQEAQSRLNEAAAG LNQAATELVQASRGTPQDL ARASGRFGQDFSTFLEAGV EMAGQAPSQEDRAQVVSN LKGISMSSSKLLLAAKALST DPAAPNLKSQLAAAARAVT DSINQLITMCTQQAPGQKE CDNALRELETVRELLENPV

				CCAGAAGGAGTGTGATAACGCCCTGCGGGAATTGGAGACGGTCCGGGAACT CCTGGAGAACCCAGTCCAGCCCATCAATGACATGTCCTACTTTGGTTGCCTG GACAGTGTAATGGAGAACTCAAAGGTGCTGGGCGAGGCCATGACTGGCATC TCCCAAAATGCCAAGAACGGAAACCTGCCAGAGTTTGGAGATGCCATTTCCA CAGCCTCAAAGGCACTTTGTGGCTTCACCGAGGCAGCTGCACAGGCTGCAT ATCTGGTTGGTGTCTCTGACCCCAATAGCCAAGCTGGACAGCAAGGGCTAG TGGAGCCCACACAGTTTGCCCGTGCAAACCAGGCAATTCAGATGGCCTGCC AGAGTTTGGGAGAGCCTGGCTGTACCCAGGCCCAGGTGCTCTCTGCAGCCA CCATTGTGGCTAAACACACCTCTGCACTGTGTAACAGCTGTCGCCTGGCTTC TGCCCGTACCACCAATCCTACTGCCAAGCGCCAGTTTGTACAGTCAGCCAAG GAGGTGGCCAACAGCACAGCTAATCTTGTCAAGACCATCAAGGCGCTAGAT GGGGCCTTCACAGAGGAGAACCGTGCCCAGTGCCGAGCAGCAACAGCCCC TCTGCTGGAGGCTGTGGACAATCTGAGTGCCTTTGCGTCCAACCCTGAGTTC TCCAGCATTCCTGCCCAGATCAGCCCTGAGGGTCGGGCTGCCATGGAGCCC ATTGTGATCTCTGCCAAGACAATGTTAGAGAGTGCCGGGGGACTCATCCAGA CAGCCCGGGCCCTCGCAGTCAATCCCCGGGAC		QPINDMSYFGCLDSVMENS KVLGEAMTGISQNAKNGNL PEFGDAISTASKALCGFTEA AAQAAYLVGVSDPNSQAG QQGLVEPTQFARANQAIQ MACQSLGEPGCTQAQVLS AATIVAKHTSALCNSCRLAS ARTTNPTAKRQFVQSAKEV ANSTANLVKTIKALDGAFTE ENRAQCRAATAPLLEAVDN LSAFASNPEFSSIPAQISPE GRAAMEPIVISAKTMLESA GGLIQTARALAVNPRD
Shigella ipaC	5	prey67546	119	CACAGGGGCTGACCTGCTGGAAGAGCATCTTGGTGAAATCTGGAACCTGCG CCAGCGCCTGGAGGAGTCCATCTGCATCAATGACTGCCTACGGGAGCAACT GGAACACCGGC	320	TGADLLEEHLGEIWNLRQR LEESICINDCLREQLEHR
Shigella ipaC	5	prey4671	120	CCTGGAGAGTCTCATCCAGAGAGTATCCCAGCTGGAGGCCCAGCTCCCAAA AAATGGACTAGAAGAGAAGCTGGCTGAGGAGCTGAGATCAGCCTCGTGGCC TGGGAAATATGATTCCCTGATTCAGGATCAGGCCCGGGAACTGTCTTACCTA CGGCAAAAAATACGAGAAGGGAGAGGTATTTGTTATCTTATCACCCGGCATG CAAAAGATACAGTAAAATCTTTTGAGGATCTCCTAAGGAGCAATGACATTGAC TACTACCTGGGACAGAGCTTCCGGGAGCAACTCGCCCAGGGAAGCCAGCTG ACAGAGAGGCTCACCAGCAAACTCAGCACCAAGGATCATAAAAGTGAGAAA GATCAAGCTGGACTTGAGCCACTGGCCCTCAGGCTCAGCAGGGAGCTGCAG GAGAAGGAGAAAGTGATTGAAGTCCTGCAGGCCAAGCTGGATGCTCGGTCC CTCACACCCTCCAGCAGCCATGCCTTGTCTGACTCCCACCGCTCTCCCAGCA GCACCTCTTTCCTGTCTGATGAACTGGAAGCCTGCTCTGACATGGACATAGT CAGCGAGTACACACACTATGAAGAGAAGAAAGCTTCTCCCAGTCACTCAGAT TCCATCCATCATTCGAGTCATTCTGCTGTGTTGTCTTCTAAACCATCATCAAC CAGTGCATCTCAGGGGGCTAAGGCCGAATCCAACAGCAACCCCATCAGCTT GCCAACTCCCCAGAATACCCCCAAGGAGGCCAACCAGGCCCATTCAGGCTT TCATTTTCACTCCATACCCAAGCTGGCTAGCCTTCCTCAGGCACCATTGCCC TCAGCTCCATCCAGCTTCCTGCCTTTCAGCCCCACTGGCCCTCTCCTCCTTG GCTGCTGTGAGACACCAGTGGTCTCCTTGGCTGAGGCTCAGCAGGAGCTAC AGATGCTGCAGAAGCAGTTGGGAGAAAGTGCCAGCACTGTTCCTCCTGCTT CCACAGCTACATTGCTGAGCAACGACTTGGAAGCCGACTCTTCCTACTACCT	321	LESLIQRVSQLEAQLPKNGL EEKLAEELRSASWPGKYDS LIQDQARELSYLRQKIREGR GICYLITRHAKDTVKSFEDL LRSNDIDYYLGQSFREQLA QGSQLTERLTSKLSTKDHK SEKDQAGLEPLALRLSREL QEKEKVIEVLQAKLDARSLT PSSSHALSDSHRSPSSTSF LSDELEACSDMDIVSEYTH YEEKKASPSHSDSIHHSSH SAVLSSKPSSTSASQGAKA ESNSNPISLPTPQNTPKEA NQAHSGFHFHSIPKLASLP QAPLPSAPSSFLPFSPTGP LLLGCCETPVVSLAEAQQE LQMLQKQLGESASTVPPAS TATLLSNDLEADSSYYLNS AQPHSPPRGTIELGRILEPG YLGSSGKWDVMRPQKGSV

				CAACTCTGCCCAGCCTCACTCTCCTCCAAGGGGCACCATAGAACTGGGAAG AATCCTAGAGCCTGGGTACCTGGGCAGCAGTGGCAAGTGGGATGTGATGAG GCCTCAGAAAGGGAGTGTATCTGGGGACCTATCCTCAGGCTCCTCTGTGTA CCAGCTTAACTCCAAACCCACAGGGGCTGACCTGCTGGAAGAGCATCTTGG TGAAATCCGGAACCTGCGCCAGCGCCTGGAGGAGTCCATCTGCATCAATGA CCGCCTACGGGAGCAACTGGAACACCGGC		SGDLSSGSSVYQLNSKPTG ADLLEEHLGEIRNLRQRLEE SICINDRLREQLEHR
Shigella ipaC	5	prey67550	121	ATGCTTACAGAGCTTCTCTTTGAATTACATGTGGCGGCCACACCTGACAAAC TCAATAAGGCCATGAAGAGGGCTCATGACTGGGTGGAAGAGGATCAAACCG TGGTGTCAGTAGATGTGGCAAAAGTGTCCGAAGAAGAAACAAAGAAGGAAG AAAAGGAAGAGAAATCTCAAGACCCTCAAGAAGACAAAAAGGAGGAAAAGAA AACTAAGACCATAGAGGAAGTATACATGTCGTCCATTGAAAGTCTGGCGGAG GTAACAGCGCGCTGTATTGAGCAGCTTCATAAAGTAGCAGAATTAATTCTTCA TGGACAAGAAGAGGAAAAACCAGCTCAGGACCAAGCAAAAGTTCTAATAAAA TTAACTACTGCAATGTGCAATGAAGTGGCCTCTTTATCAAAGAAGTTTACGAA TTCTTTAACCACTGTTGGGAGCAACAAGAAGGCCGAGGTCCTTAACCCCATG ATCAGTAGTGTATTGTTAGAGGGCTGCA	322	MLTELLFELHVAATPDKLNK AMKRAHDWVEEDQTVVSV DVAKVSEEETKKEEKEEKS QDPQEDKKEEKKTKTIEEV YMSSIESLAEVTARCIEQLH KVAELILHGQEEEKPAQDQ AKVLIKLTTAMCNEVASLSK KFTNSLTTVGSNKKAEVLN PMISSVLLEGC
Shigella ipaC	5	prey8889	122	GTTCCAGAACAGACAGGTGCAGAGCCTGCTGGAGCTGCGGGAGGCCCAGG TGGACGCAGAGGCCCAGCGGAGGCTGGAACACCTGAGACAGGCTCTGCAG CGGCTCAGGGAGGTCGTCCTTGATGCAAACACAACTCAGTTCAAGAGGCTG AAAGAGATGAACGAGAGGGAGAAGAAGGAGCTGCAGAAGATCCTGGACAGA AAGCGCCATAACAGCATCTCGGAGGCCAAGATGAGGGACAAGCATAAGAAG GAGGCGGAACTGACGGAGATTAACCGTCGGCACATCACTGAGTCAGTCAAC TCCATCCGTCGGCTGGAGGAGGCCCAGAAGCAGCGGCATGACCGTCTTGTG GCTGGGCAGCAGCAGGTCCTGCAACAGCTGGCAGAAGAGGAGCCCAAGCT GCTGGCCCAGCTGGCCCAGGAGTGTCAGGAGCAGCGGGCGAGGCTCCCCC AGGAGATCCGCCGGAGCCTGCTGGGCGAGATGCCGGAGGGGCTGGGGGA CGGGCCTCTGGTGGCCTGTGCCAGCAACGGTCACGCACCCGGGAGCAGCG GGCACCTGTCGGGCGCTGACTCGGAGAGCCAGGAGGAGAACACGCAGCTC TGA	323	FQNRQVQSLLELREAQVDA EAQRRLEHLRQALQRLREV VLDANTTQFKRLKEMNERE KKELQKILDRKRHNSISEAK MRDKHKKEAELTEINRRHIT ESVNSIRRLEEAQKQRHDR LVAGQQQVLQQLAEEEPKL LAQLAQECQEQRARLPQEI RRSLLGEMPEGLGDGPLV ACASNGHAPGSSGHLSGA DSESQEENTQL*
Shigella ipaC	5	prey11375	123	CTCCTCGGCTGGGGGCTCGGGCAATTCCCGGCCCCCACGCAACCTCCAAG GCTTGCTGCAGATGGCCATCACCGCGGGCTCTGAAGAGCCAGACCCTCCTC CAGAACCGATGAGTGAGGAGAGGCGTCAGTGGCTGCAGGAGGCCATGTCG GCTGCCTTCCGAGGCCAGCGGGAGGAGGTGGAGCAGATGAAGAGCTGCCT CCGAGTGCTGTCACAGCCCATGCCCCCCACTGCTGGGGAGGCCGAGCAGG CGGCCGACCAGCAAGAGCGAGAGGGGGCCCTGGAGCTGCTGGCCGACCTG TGTGAGAACATGGACAATGCCGCAGACTTCTGCCAGCTGTCTGGCATGCAC CTGCTGGTGGGCCGGTACCTGGAGGCGGGGGCTGCGGGACTGCGGTGGC GGGCGGCACAGCTCATCGGCACGTGCAGTCAGAACGTGGCAGCCATCCAG GAGCAGGTGCTGGGCCTGGGTGCCCTGCGTAAGCTGCTGCGGCTGCTGGA	324	SSAGGSGNSRPPRNLQGL LQMAITAGSEEPDPPPEPM SEERRQWLQEAMSAAFRG QREEVEQMKSCLRVLSQP MPPTAGEAEQAADQQERE GALELLADLCENMDNAADF CQLSGMHLLVGRYLEAGA AGLRWRAAQLIGTCSQNVA AIQEQVLGLGALRKLLRLLD RDACDTVRVKALFAISCLV

				CCGCGACGCCTGCGACACGGTGCGCGTCAAGGCCCTCTTCGCCATCTCCTG TCTGGTCCGAGAGCAGGAGGCTGGGCTGCTGCAGTTCCTCCGCCTGGACG GCTTCTCTGTGTTGATGAGGGCCATGCAGCAGCAGGTGCAGAAGCTCAAGG TCAAATCAGCATTCCTGCTGCAGAACCTGCTGGTGGGCCACCCTGAACACAA AGGGACCC		REQEAGLLQFLRLDGFSVL MRAMQQQVQKLKVKSAFL LQNLLVGHPEHKGT
Shigella ipaC	5	prey67473	124	ATGGCAGAGAAGGTGCTGGTAACAGGTGGGGCTGGCTACATTGGCAGCCAC ACGGTGCTGGAGCTGCTGGAGGCTGGCTACTTGCCTGTGGTCATCGATAAC TTCCATAATGCCTTCCGTGGAGGGGGCTCCCTGCCTGAGAGCCTGCGGCGG GTCCAGGAGCTGACAGGCCGCTCTGTGGAGTTTGAGGAGATGGACATTTTG GACCAGGGAGCCCTACAGCGTCTCTTCAAAAAGTACAGCTTTATGGCGGTCA TCCACTTTGCGGGGCTCAAGGCCGTGGGCGAGTCGGTGCAGAAGCCTCTG GATTATTACAGAGTTAACCTGACCGGGACCATCCAGCTTCTGGAGATCATGA AGGCCCACGGGGTGAAGAACCTGGTGTTCAGCAGCTCAGCCACTGTGTACG GGAACCCCCAGTACCTGCCCCTTGATGAGGCCCA	325	MAEKVLVTGGAGYIGSHTV LELLEAGYLPVVIDNFHNAF RGGGSLPESLRRVQELTG RSVEFEEMDILDQGALQRL FKKYSFMAVIHFAGLKAVG ESVQKPLDYYRVNLTGTIQ LLEIMKAHGVKNLVFSSSAT VYGNPQYLPLDEA
Shigella ipaC	5	prey8929	125	AAAAGTGGTTCAACGGTTGGTAGAGAGAGGAAGATCTTTGGATGATGCAAGG AAGAGAGCCAAGCAGTTCCATGAAGCTTGGAGTAAACTTATGGAGTGGCTAG AAGAGTCAGAAAAGTCTTTGGATTCTGAACTGGAAATCGCAAATGATCCAGA CAAAATAAAAACACAACTTGCACAACATAAGGAGTTTCAGAAATCACTCGGAG CCAAGCATTCTGTCTACGACACCACCAACAGGACTGGACGTTCTCTGAAGGA GAAAACCTCCCTGGCTGATGACAACCTGAAACTGGATGACATGCTGAGTGAA CTCAGAGACAAATGGGATACCATATGTGGAAAATCTGTGGAAAGACAAAACA AATTGGAGGAAGCCCTGTTATTTTCTGGACAATTCACAGATGCCCTACAGGC TCTCATTGATTGGTTATATAGAGTTGAACCCCAGCTGGCAGAAGACCAGCCT GTTCATGGAGACATTGATTTGGTGATGAATCTGATCGATAATCACAAGGCCTT CCAAAAAGAGTTGGGGAAGAGGACCAGCAGTGTGCAGGCCCTGAAGCGCTC AGCCCGAGAACTCATAGAAGGCAGTCGGGATGACTCCTCCTGGGTCAAGGT CCAGATGCAGGAATTAAGCACACGCTGGGAGACCGTGTGTGCACTTTCTATA TCAAAGCAAACACGGTTAGAAGCAGCCCTGCGTCAGGCAGAGGAATTCCAC TCGGTGGTACATGCCCTCTTGGAGTGGCTGGCTGAGGCGGAGCAAACCCTG CGTTTCCATGGTGTCCTCCCAGATGATGAGGATGCTCTCCGGACTCTCATTG ATCAGCATAAAGAAT	326	KVVQRLVERGRSLDDARK RAKQFHEAWSKLMEWLEE SEKSLDSELEIANDPDKIKT QLAQHKEFQKSLGAKHSVY DTTNRTGRSLKEKTSLADD NLKLDDMLSELRDKWDTIC GKSVERQNKLEEALLFSGQ FTDALQALIDWLYRVEPQL AEDQPVHGDIDLVMNLIDN HKAFQKELGKRTSSVQALK RSARELIEGSRDDSSWVKV QMQELSTRWETVCALSISK QTRLEAALRQAEEFHSVVH ALLEWLAEAEQTLRFHGVL PDDEDALRTLIDQHKE
Shigella ipaC	5	prey3488	126	GCTGACTCATACCGAAGAGTTGTTAGATGCTCAGAGACCAATAAGTGGAGAC CCAAAAGTCATTGAAGTTGAGCTCGCAAAGCACCATGTCCTAAAAAATGATG TTTTGGCTCATCAAGCCACAGTGGAAACAGTCAACAAAGCTGGCAATGAGCT TCTTGAATCCAGTGCTGGAGATGATGCCAGCAGCTTAAGGAGCCGTTTGGAA GCCATGAACCAATGCTGGGAGTCAGTGTTACAGAAAACAGAGGAGAGGGAG CAGCAGCTTCAGTCAACTCTGCAGCAGGCCCAGGGCTTCCACAGTGAAATT GAAGATTTCCTCTTGGAACTTACTAGAATGGAGAGCCAGCTTTCTGCATCTAA GCCCACAGGAGGACTTCCTGAAACTGCTAGGGAACAGCTTGATACACATATG	327	LTHTEELLDAQRPISGDPKV IEVELAKHHVLKNDVLAHQ ATVETVNKAGNELLESSAG DDASSLRSRLEAMNQCWE SVLQKTEEREQQLQSTLQQ AQGFHSEIEDFLLELTRME SQLSASKPTGGLPETAREQ LDTHMELYSQLKAKEETYN

				GAACTCTATTCCCAGCTGAAAGCCAAGGAAGAGACTTATAATCAACTACTTGA CAAGGGCAGACTCATGCTTCTAAGCCGTGACGACTCTGGGTCTGGCTCCAA GACAGAACAGAGTGTAGCACTTTTGGAGCAGAAGTGGCATGTGGTCAGCAG TAAGATGGAAGAAAGAAAGTCAAAGCTGGAAGAGGCCCTCAACTTGGCAACA GAATTCCAGAATTCCCTACAAGAATTTATCAACTGGCTCACTCTAGCAGAGCA GAGTTTAAACATCGCTTCTCCACCAAGCCTGATTCTAAATACTGTCCTTTCCC AGATAGAAGAGCACAAGGTTTTTGCTAATGAAGTAAATGCTCATCGAGACCA GATCATTGAGCTGGATCAAACTGGGAATCAATTAAAGTTCCTTAGCCAAAAG CAGGATGTTGTTCTGATCAAGAATTTGTTGGTGAGCGTGCAGTCTCGATGGG AGAAGGTTGTCCAGCGATCTATTGAAAGAGGGCGATCACTAGATGATGCCAG GAAGCGGGCAAAACAATTCCATGAAGCTTGGAAAAAACTGATTGACTGGCTA GAAGATGCAGAGAGTCACCTGGACTCAGAACTAGAGATATCCAATGACCCAG ACAAAATTAAACTTCAGCTTTCTAAGCATAAGGAGTTTCAGAAGACTCTTGGT GGCAAGCAGCCTGTGTATGATACCACAATTAGAACTGGCAGAGCACTGAAAG AAAAGACTTTGCTTCCCGAAGATACTCAGAAACTTGACAATTTCCTAGGAGAA GTCAGAGACAAATGGGATACTGTTTGTGGCAAGTCTGTGGAGCGGCAGCAC AAGTTGGAGGAAGCCCTGCTCTTTTCGGGTCAGTTCATGGATGCTTTGCAGG CATTGGTTGACTGGTTATACAAGGTGGAGCCACAGCTGGCTGAGGACCAGC CCGTGCACGGGGACCTTGACCTCGTCATGAACCTCATGGATGCACACAAGG TTTTCCAGAAGGAACTGGGAAAGCGAACAGGAACCGTTCAGGTCCTGAAGC GGTCAGGCCGAGAGCTGATTGAGAATAGTCGAGATGACACCACTTGGGTAA AAGGACAGCTCCAGGAACTGAGCACTCGCTGGGACACTGTCTGTAAACTCT CTGTTTCCAAACAAAGCCGGCTTGAGCAGGCCTTAAAACAAGCGGAAGTGTT TCGAGACACAGTCCACATGCTGTTGGAGTGGCTTTCTGAAGCAGAGCAAAC GCTTCGCTTTCGGGGAGCACTTCCTGATGACACAGAGGCCCTGCAGTCTCT CATTGACACCC		QLLDKGRLMLLSRDDSGS GSKTEQSVALLEQKWHVV SSKMEERKSKLEEALNLAT EFQNSLQEFINWLTLAEQS LNIASPPSLILNTVLSQIEEH KVFANEVNAHRDQIIELDQT GNQLKFLSQKQDVVLIKNLL VSVQSRWEKVVQRSIERG RSLDDARKRAKQFHEAWK KLIDWLEDAESHLDSELEIS NDPDKIKLQLSKHKEFQKTL GGKQPVYDTTIRTGRALKE KTLLPEDTQKLDNFLGEVR DKWDTVCGKSVERQHKLE EALLFSGQFMDALQALVD WLYKVEPQLAEDQPVHGD LDLVMNLMDAHKVFQKELG KRTGTVQVLKRSGRELIEN SRDDTTWVKGQLQELSTR WDTVCKLSVSKQSRLEQAL KQAEVFRDTVHMLLEWLSE AEQTLRFRGALPDDTEALQ SLIDT
Shigella ipaC	5	prey3514	127	GGAAAAAGAAGAGCTGCCACGTGCCGTGGGTACCCAGACATTGAGTGGTGC TGGTCTCCTCAAGATGTTCAACAAAGCCACAGATGCCGTCAGCAAAATGACC ATCAAGATGAATGAATCAGACATTTGGTTTGAGGAGAAGCTCCAGGAGGTAG AGTGTGAGGAGCAGCGCTTACGGAAACTGCATGCTGTTGTAGAAACTCTAGT CAACCATAGGAAAGAGCTAGCGCTGAACACAGCCCAGTTTGCAAAGAGTCTA GCCATGCTTGGGAGCTCTGAGGACAACACGGCATTGTCACGGGCACTCTCC CAGCTGGCTGAGGTGGAAGAAAAAATTGAGCAGCTCCACCAGGAACAGGCC AACAATGACTTCTTCCTCCTTGCTGAGCTCCTGAGTGACTACATTCGCCTCCT GGCCATAGTCCGCGCTGCCTTCGACCAGCGCATGAAGACATGGCAGCGCTG GCAGGATGCCCAAGCCACACTGCAGAAGAAGCGGGAGGCCGAGGCTCGGC TGCTGTGGGCCAACAAGCCTGATAAGCTGCAGCAGGCCAAGGACGAGATCC TCGAGTGGGAGTCTCGGGTGACTCAATATGAAAGGGACTTCGAGAGGATTT CAACAGTGGTCCGAAAAGAAGTGATACGGTTTGAGAAAGAGAAATCCAAGGA	328	EKEELPRAVGTQTLSGAGL LKMFNKATDAVSKMTIKMN ESDIWFEEKLQEVECEEQR LRKLHAVVETLVNHRKELA LNTAQFAKSLAMLGSSEDN TALSRALSQLAEVEEKIEQL HQEQANNDFFLLAELLSDYI RLLAIVRAAFDQRMKTWQR WQDAQATLQKKREAEARL LWANKPDKLQQAKDEILEW ESRVTQYERDFERISTVVR KEVIRFEKEKSKDFKNHVIK YLETLLYSQQQLAKYWEAF

				CTTCAAGAACCACGTGATCAAGTACCTTGAGACACTCCTTTACTCACAGCAGCAGCTGGCAAAGTACTGGGAAGCCTTCCTTCCTGAGGCAAAGGCCATCTCCTAA		LPEAKAIS*
Shigella ipaC	5	prey5814	128	TGATGCCCCACCACAGCTTGAAGATGAGGAACCTGCATTTCCACATACTGACTTGGCCAAGTTGGATGACATGATCAACAGGCCTCGATGGGTGGTTCCAGTTTTGCCGAAAGGGGAATTAGAAGTGCTTTTAGAAGCTGCTATTGATCTTAGTAAAAAGGGCCTTGATGTTAAAAGTGAAGCATGTCAGCGATTTTTCCGTGATGGGCTAACAATATCATTCACTAAAATTCTTACAGATGAAGCAGTGAGTGGCTGGAAGTTTGAAATTCATAGGTGTCTGGTGGAGCTATGTGTGGCCAAGTTGTCCCAAGACTGGTTTCCACTTTTAGAACTTCTTGCCATGGCCTTAAATCCTCATTGCAAATTCCATATCTACAATGGTACACGTCCATGTGAATCAGTTTCCTCAAGTGTTCAGTTGCCTGAAGATGAACTCTTTGCTCGTTCTCCAGATCCTCGATCACCAAAGGGTTGGCTAGTGGATCTTCTCAACAAATTTGGCACTTTAAATGGGTTCCAGATTTTGCATGATCGTTTTATTAATGGATCAGCATTAAACGTTCAAATAATTGCAGCCCTTATTAAACCATTTGGGCAATGCTATGAGTTTCTCACTCTTCATACAGTGAAAAAGTACTTTCTTCCAATAATAGAAATGGTTCCACAGTTTTTAGAAAACTTAACTGATGAAGAACTGAAAAAAGAAGCAAAGAATGAAGCCAAAAATGATGCTCTTTCAATGATTATTAAATCTTTGAAGAATTTAGCTTCAAGGGTTCCAGGACAAGAAGAAACTGTTAAAAACTTAGAAATATTTAGGTTAAAAATGATACTTAGATTATTGCAAATTTCTTCTTTCAATGGAAAGATGAATGCACTGAATGAAGTTAATAAGGTGATATCTAGTGTATCATACTATACTCATCGACATGGTAATCCTGAGGAGGAAGAGTGGCTCACAGCTGAACGAATGGCAGAATGGATACAGCAGAACAATATCTTATCCATAGTGTTGCGAGATAGTCTTCATCAGCCACAGTATGTAGAAAAGTTAGAGAAGATTCTTCGTTTTGTCATCAAAGAAAAAGCTCTGACCTTACAGGATCTTGATAATATCTGGGCAGCACAGGCAGGGAAACATGAAGCCATTGTGAAGAATGTACATGATCTCCTGGCAAAATTGGCATGGGATTTTTCTCCTGAACAACTTGATCATCCTTTTGATTGTTTTAAGGCCAGTCGGACAAATGCGAGTAAAAAGCAACGTGAAAAGCTACTTGAGCTGATACGTCGTCTTGCAGAAGATGATAAAGATGGTGTGATGGCACACAGAGTGTTGAACCTTCTGTGGAATCTGGCTCACAGTGATGATGTGCCTGTAGATATCATGGACCTGGCTCTCAGTGCCCACATAAAAATACTAGATTACAGTTGCTCCCAGGACCGTGATACACAAAAGATCCAATGGATAGATCGCTTTATAGAAGAACTTCGCACAAATGACAAATGGGTTATTCCCGCACTGAAACAAATTAGAGAAATTTGTAGTTTGTTTGGTGAAGCGCCTCAAAATTTGAGTCAAACTCAGCGAAGTCCCCATGTGTTTTATCGCCA	329	DAPPQLEDEEPAFPHTDLAKLDDMINRPRWVVPVLPKGELEVLLEAAIDLSKKGLDVKSEACQRFFRDGLTISFTKILTDEAVSGWKFEIHRCLVELCVAKLSQDWFPLLELLAMALNPHCKFHIYNGTRPCESVSSSVQLPEDELFARSPDPRSPKGWLVDLLNKFGTLNGFQILHDRFINGSALNVQIIAALIKPFGQCYEFLTLHTVKKYFLPIIEMVPQFLENLTDEELKKEAKNEAKNDALSMIIKSLKNLASRVPGQEETVKNLEIFRLKMILRLLQISSFNGKMNALNEVNKVISSVSYYTHRHGNPEEEEWLTAERMAEWIQQNNILSIVLRDSLHQPQYVEKLEKILRFVIKEKALTLQDLDNIWAAQAGKHEAIVKNVHDLLAKLAWDFSPEQLDHPFDCFKASRTNASKKQREKLLELIRRLAEDDKDGVMAHRVLNLLWNLAHSDDVPVDIMDLALSAHIKILDYSCSQDRDTQKIQWIDRFIEELRTNDKWVIPALKQIREICSLFGEAPQNLSQTQRSPHVFYR
Shigella ipaC	5	prey5814	129	CCATGCCAAACTTGGAGAAAGCAGCCTTAGTCCATCTCTTGACTCACTTTTCTTTGGTCCTTCAGCCTCACAAGTGCTATATCTAACAGAGGTAGTCTATGCCTTGTTAATGCCTGCTGGTGCACCTCTGGCTGATGATTCCTCTGATTTTCAGTTTCACTTCTTGAAAAGTGGTGGCCTACCCCTTGTACTGAGTATGCTAACCAGAAATAACTTCCTACCGAATGCAGATATGGAAACTCGAAGGGGTGCCTACCTCAATG	330	HAKLGESSLSPSLDSLFFGPSASQVLYLTEVVYALLMPAGAPLADDSSDFQFHFLKSGGLPLVLSMLTRNNFLPNADMETRRGAYLNALKIAKLLL

				CTCTTAAAATAGCCAAGCTTTTGCTAACTGCCATTGGCTATGGTCATGTTCGA GCTGTGGCAGAAGCTTGTCAGCCAGGTGTAGAAGGTGTGAATCCCATGACA CAGATCAACCAAGTTACCCATGATCAAGCAGTGGTGCTACAAAGTGCCCTTC AGAGCATTCCTAATCCATCATCCGAGTGCATGCTTAGAAATGTGTCAGTTCGT CTTGCTCAGCAGATATCTGATGAGGCTTCAAGATATATGCCTGATATTTGTGT AATTAGAGCTATACAAAAAATTATCTGGGCATCAGGATGTGGGTCGTTACAG CTAGTATTTAGCCCAAATGAAGAAATCACTAAAATTTATGAGAAGACCAATGC AGGCAATGAGCCAGACTTGGAAGACGAACAGGTTTGCTGTGAAGCATTGGA AGTGATGACCTTATGTTTTGCCTTGATTCCAACAGCCTTAGATGCTCTTAGTA AAGAAAAGGCTTGGCAGACATTCATCATTGACTTACTATTGCACTGTCACAGC AAAACTGTTCGTCAGGTGGCACAGGAGCAGTTCTTTTTAATGTGCACCAGAT GTTGCATGGGACACCGGCCTCTACTTTTCTTCATTACTCTACTCTTTACTGTT TTGGGGAGCACAGCAAGAGAGAGAGCTAAACACTCAGGCGACTACTTTACT CTTTTAAGACACCTTCTTAATTACGCTTACAATAGTAATATTAATGTACCCAAT GCTGAAGTTCTTTTCAATAATGAAATTGATTGGCTTAAAAGAATTAGGGATGA TGTTAAAAGAACAGGAGAAACGGGTATTGAAGAGACGATCTTAGAGGGCCAC CTTGGAGTGACAAAGGAGTTACTGGCCTTTCAAACTTCTGAGAAAAAATTTCA TATTGGTTGTGAAAAAGGAGGTGCTAATCTCATTAAAGAATTAATTGATGATT TCATATTTCCTGCATCCAATGTTTACCTACAGTATATGAGAAATGGAGAGCTT CCAGCTGAACAGGCTATTCCGGTCTGTGGTTCACCACCTACAATTAATGCTG GTTTTGAATTACTTGTAGCATTAGCTGTTGGCTGTGTGAGGAATCTCAAACAA ATAGTAGATTCTTTGACTGAAATGTATTACATTGGCACAGCAATAACTACTTG TGAAGCACTTACTGAGTGGGAATATCTGCCACCTGTTGGACCCCGCCCACC CAAAGGATTCGTGGGGCTGAAAAATGCCGGTGCTACTTGTTACATGAATTCT GTGATTCAGCAACTCTACATGATTCCTTCCATTAGGAACGGTATTCTTGCCAT TGAAGGCACAGGTAGTGATGTAGATGATGATATGTCTGGGGATGAGAAGCA GGACAATGAGAGCAATGTTGATCCCAGGGATGATGTATTTGGATATCCTCAA CAATTTGAAGATAAACCAGCATTAAGTAAAACTGAAGATAGAAAAGAGTACAA CATTGGTGTCCTAAGACACCTTCAGGTCATCTTTGGTCATTTAGCTGCTTCTC GACTGCAATACTATGTGCCCAGAGGATTTTGGAAACAGTTCAGGCTTTGGGG TGAGCCTGTTAATCTGCGTGAACAACACGATGCTTTAGAATTTTTTAATTCATT GGTGGATAGTTTAGATGAAGCTTTAAAAGCTTTAGGACATCCAGCTATGCTAA GTAAAGTCTTAGGAGGTTCCTTTGCTGATCAGAAGATCTGCCAAGGCTGCCC ACATAGGTACGAATGTGAAGAATCTTTTACGACCCTAAACGTAGACATTAGAA ATCACCAAAATCTTCTTGATTCTTTGGAACAGTATGTCAAAGGAGATTTACTA GAAGGTGCAAATGCATATCATTGTGAAAAATGCAATAAAAAGGTTGATACCGT AAAGCGCTTGCTGATTAAAAAATTACCTCCTGTTCTTGCTATACAACTAAAGC GATTTGACTATGACTGGGAAAGAGAATGTGCAATCAAGTTCAATGATTATTTT GAATTTCCTCGAGAGCTGGACATGGAACCTTACACAGTTGCAGGTGTCGCAA		TAIGYGHVRAVAEACQPGV EGVNPMTQINQVTHDQAV VLQSALQSIPNPSSECMLR NVSVRLAQQISDEASRYMP DICVIRAIQKIIWASGCGSLQ LVFSPNEEITKIYEKTNAGN EPDLEDEQVCCEALEVMTL CFALIPTALDALSKEKAWQT FIIDLLLHCHSKTVRQVAQE QFFLMCTRCCMGHRPLLFF ITLLFTVLGSTARERAKHSG DYFTLLRHLLNYAYNSNINV PNAEVLFNNEIDWLKRIRD DVKRTGETGIEETILEGHLG VTKELLAFQTSEKKFHIGCE KGGANLIKELIDDFIFPASNV YLQYMRNGELPAEQAIPVC GSPPTINAGFELLVALAVGC VRNLKQIVDSLTEMYYIGTA ITTCEALTEWEYLPPVGPR PPKGFVGLKNAGATCYMN SVIQQLYMIPSIRNGILAIEG TGSDVDDDMSGDEKQDNE SNVDPRDDVFGYPQQFED KPALSKTEDRKEYNIGVLR HLQVIFGHLAASRLQYYVP RGFWKQFRLWGEPVNLRE QHDALEFFNSLVDSLDEAL KALGHPAMLSKVLGGSFAD QKICQGCPHRYECEESFTT LNVDIRNHQNLLDSLEQYV KGDLLEGANAYHCEKCNK KVDTVKRLLIKKLPPVLAIQL KRFDYDWERECAIKFNDYF EFPRELDMEPYTVAGVAKL EGDNVNPESQLIQQSEQSE SETAGSTKYRLVGVLVHSG QASGGHYYSYIIQRNGGDG ERNRWYKFDDGDVTECKM

				AGCTGGAAGGGGATAATGTAAACCCAGAGAGTCAGTTGATACAACAGAGTGA GCAGTCTGAAAGTGAGACAGCAGGAAGCACAAAATACAGACTTGTGGGTGT GCTCGTACACAGTGGTCAAGCGAGTGGGGGGCATTATTATTCTTACATCATC CAAAGGAATGGTGGAGATGGTGAGAGAAATCGCTGGTATAAATTTGATGATG GTGATGTAACAGAATGTAAAATGGATGATGACGAAGAAATGAAAAACCAGTG TTTTGGTGGAGAGTACATGGGAGAAGTGTTTGATCACATGATGAAGCGTATG TCATACAGGCGCCAGAAAAGGTGGTGGAATGCTTATATACCTTTTTATGAAC GAATGGACACAATAGACCAAGATGATGAGTTGATAAGATATATATCAGAGCTT GCTATCACCACCAGACCTCATCAGATTATTATGCCATCAGCCATTGAGAGAA GTGTACGGAAACAGAACGTACAATTCATGCATAACCGAATGCAGTACAGTAT GGAGTATTTTCAGTTTATGAAAAAACTGCTTACATGTAATGGCGTTTACTTAAA CCCTCCTCCCGGGCAAGATCACCTGTTGCCTGAAGCAGAAGAAATCACTATG ATCAGTATTCAACTTGCTGCTAGGTTCCTCTTTACTACAGGATTTCACACAAA GAAAGTAGTCCGTGGCTCTGCCAGTGATTGGTATGATGCATTGTGTATTCTC CTTCGTCACAGCAAGAATGTACGTTTTTGGTTTGCTCATAACGTCCTTTTTAA TGTTTCAAATCGCTTCTCCGAATACCTTCTGGAGTGCCCTAGTGCAGAAGTG AGGGGTGCGTTTGCAAAACTTATAGTCTTTATTGCACATTTTTCCTTGCAAGA TGGGCCATGTCCTTCACCTTTTGCCTCTCCTGGACCTTCTAGTCAGGCTTAT GACAACTTAAGCTTGAGTGATCACTTACTAAGAGCAGTACTAAATCTCTTGAG AAGGGAAGTTTCAGAGCATGGGCGTCATTTACAGCAGTATTTCAACCTGTTT GTAATGTATGCCAATTTAGGTGTGGCAGAGAAGACACAGCTTCTGAAATTGA GTGTACCTGCTACTTTTATGCTTGTGTCTTTAGATGAAGGTCCAGGTCCTCCA ATCAAATACCAGTATGCTGAATTAGGCAAATTATACTCAGTAGTGTCACAGCT GATCCGCTGTTGCAATGTCTCTTCAAGAATGCAGTCTTCAATCAATGGTAATC CTCCTCTTCCCAATCCTTTTGGTGATCCTAATTTATCACAACCTATAATGCCAA TTCAGCAGAATGTGGCAGACATTTTATTTGTGAGAACAAGTTATGTGAAGAAA ATCATTGAAGACTGCAGTAATTCAGAGGAAACCGTCAAATTGCTTCGTTTTTG CTGCTGGGAGAATCCTCAGTTCTCATCTACTGTCCTCAGTGAACTTCTCTGG CAGGTTGCATATTCCTATCCCTATGAACTGCGGCCCTATTTGGATCTGCTTTT GCAAATCTTACTGATTGAGGACTCCTGGCAAACTCACAGAATTCATAATGCAC TGAAAGGAATTCCAGATGACCGAGATGGGCTGTTTGACACAATCCAGCGCTC TAAGAATCACTATCAAAAAAGAGCATACCAGTGTATAAAATGTATGGTAGCTC TATTTAGTAACTGTCCTGTTGCTTACCAAATCCTGCAGGGCAATGGAGATCTT AAAAGAAAGTGGACCTGGGCAGTGGAATGGCTTGGAGATGAACTTGAAAGA AGACCATATACTGGCAATCCTCAGTACACTTACAACAATTGGTCTCCCCCAGT GCAAAGCAATGAAACGTCCAATGGTTATTTCTTGGAGAGATCACATAGTGCT AGGATGACACTTGCAAAAGCTTGTGAACTCTGTCCAGAGGAGGTAAAAAAAG CCACCAGTGTGCAGCAGATAGAAATGGAAGAGAGCAAAGAGCCAGATGACC AAGATGCTCCAGATGAACATGAGTCGCCTCCACCTGAAGATGCCCCATTGTA		DDDEEMKNQCFGGEYMG EVFDHMMKRMSYRRQKR WWNAYIPFYERMDTIDQDD ELIRYISELAITTRPHQIIMPS AIERSVRKQNVQFMHNRM QYSMEYFQFMKKLLTCNG VYLNPPPGQDHLLPEAEEIT MISIQLAARFLFTTGFHTKK VVRGSASDWYDALCILLRH SKNVRFWFAHNVLFNVSN RFSEYLLECPSAEVRGAFA KLIVFIAHFSLQDGPCPSPF ASPGPSSQAYDNLSLSDHL LRAVLNLLRREVSEHGRHL QQYFNLFVMYANLGVAEKT QLLKLSVPATFMLVSLDEG PGPPIKYQYAELGKLYSVV SQLIRCCNVSSRMQSSING NPPLPNPFGDPNLSQPIMPI QQNVADILFVRTSYVKKIIE DCSNSEETVKLLRFCCWE NPQFSSTVLSELLWQVAYS YPYELRPYLDLLLQILLIEDS WQTHRIHNALKGIPDDRDG LFDTIQRSKNHYQKRAYQC IKCMVALFSNCPVAYQILQG NGDLKRKWTWAVEWLGD ELERRPYTGNPQYTYNNW SPPVQSNETSNGYFLERSH SARMTLAKACELCPEEVKK ATSVQQIEMEESKEPDDQD APDEHESPPPEDAPLYPHS PGSQYQQNNHVHGQPYTG PAAHHMNNPQRTGQRAQE NYEGSEEVSPPQTKDQ*

				CCCCCATTCACCTGGATCTCAGTATCAACAGAATAACCATGTGCATGGACAG CCATATACAGGCCCAGCAGCACATCACATGAACAACCCTCAGAGAACTGGC CAACGAGCACAAGAAAATTATGAAGGCAGTGAAGAAGTATCCCCACCTCAAA CCAAGGATCAATGA		
Shigella ipaC	5	prey67479	130	CGATGAGCTCATGAGACATCAGCCCACCCTTAAAACAGATGCAACGACTGCC ATCATCAAGTTACTTGAAGAAATCTGTAATCTTGGAAGGGACCCCAAATACAT CTGTCAGAAGCCATCGATCCAGAAGGCAGATGGCACTGCCACTGCTCCTCC CCCAAGGTCTAATCATGCCGCAGAAGAAGCCTCTAGTGAGGATGAGGAGGA AGAGGAAGTACAGGCCATGCAGAGCTTTAATTCTACCCAGCAAAATGAAACT GAGCCTAATCAGCAGGTTGTTGGTACAGAGGAACGTATTCCTATTCCCCTCA TGGATTACATCCTTAATGTGATGAAATTTGTGGAATCTATTCTGAGCAACAAT ACAACAGATGACCACTGCCAGGAATTTGTGAATCAGAAAGGACTGTTGCCTT TGGTTACCATTTTGGGTCTTCCCAATCTGCCCATTGACTTTCCCACATCTGCT GCCTGTCAGGCTGTTGCAGGTGTCTGCAAATCCATATTGACACTGTCACATG AACCCAAAGTCCTTCAAGAGGGTCTCCTTCAGTTGGACTCCATCCTCTCCTC CCTGGAGCCCTTACACCGCCC	331	DELMRHQPTLKTDATTAIIK LLEEICNLGRDPKYICQKPS IQKADGTATAPPPRSNHAA EEASSEDEEEEEVQAMQS FNSTQQNETEPNQQVVGT EERIPIPLMDYILNVMKFVE SILSNNTTDDHCQEFVNQK GLLPLVTILGLPNLPIDFPTS AACQAVAGVCKSILTLSHE PKVLQEGLLQLDSILSSLEP LHR
Shigella ipaC	5	prey700	131	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGCCTTTGCCAGATCTACAGACCAGACCGTTCTAGAAGAATTAGCTTCCAT TAAGAATAGACAAAGAATTCAGAAATTGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAAACAACACAACAGTTATACCCAAGTTTACTTGAAAG	332	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAIETTQQLYPSLLE
Shigella ipaC	5	prey67481	132	AAAACAAGACCAGAAAGCTCCAGATAAAGAGGCCATACTGCGGGCCACCGC CAACCTGCCCTCCTACAACATGGACCGGGCCGCGGTCCAGACCAACATGAG AGACTTCCAGACAGAACTCCGGAAGATACTGGTGTCTCTCATCGAGGTGGC GCAGAAGCTGTTAGCGCTGAACCCAGATGCGGTGGAATTGTTTAAGAAGGC GAATGCAATGCTGGACGAGGACGAGGATGAGCGTGTGGACGAGGCTGCCC TGCGGCAGCTCACGGAGATGGGCTTTCCGGAGAACAGAGCCACCAAGGCC CTTCAGCTGAACCACATGTCGGTGCCTCAGGCCATGGAGTGGCTAATTGAAC ACGCAGAAGACCCG	333	KQDQKAPDKEAILRATANL PSYNMDRAAVQTNMRDFQ TELRKILVSLIEVAQKLLALN PDAVELFKKANAMLDEDED ERVDEAALRQLTEMGFPEN RATKALQLNHMSVPQAME WLIEHAEDP
Shigella ipaC	5	prey67488	133	CTGTTCATGAAGAGTGAGCGACACGCAGCCGAGGCACAGCTGGCCACAGCA GAGCAGCAGCTACGGGGGCTACGGACCGAGGCGGAAAGGGCTCGCCAGG CCCAGAGCCGGGCCCAGGAGGCTCTGGACAAGGCCAAGGAGAAGGACAAG	334	LFMKSERHAAEAQLATAEQ QLRGLRTEAERARQAQSR AQEALDKAKEKDKKITELSK

				AAGATCACAGAACTCTCCAAAGAAGTCTTCAATCTTAAGGAAGCCTTGAAGGAGCAGCCGGCCGCCCTCGCCACCCCTGAGGTGGAGGCTCTCCGTGACCAGGTGAAGGATTTACAGCAGCAGCTGCAGGAAGCTGCCAGGGACCACTCCAGCGTGGTGGCTTTGTACAGAAGCCACCTCCTATATGCCATTCAG		EVFNLKEALKEQPAALATPEVEALRDQVKDLQQQLQEAARDHSSVVALYRSHLLYAIQ
Shigella ipaC	5	prey51967	134	TGACCAACTTGTGTTGATATTTGCTGGAAAAATTTTGAAAGATCAAGATACCTTGAGTCAGCATGGAATTCATGATGGACTTACTGTTCACCTTGTCATTAAAACACAAAACAGGCCTCAGGATCATTCAGCTCAGCAAACAAATACAGCTGGAAGCAATGTTACTACATCATCAACTCCTAATAGTAACTCTACATCTGGTTCTGCTACTAGCAACCCTTTTGGTTTAGGTGGCCTTGGGGGACTTGCAGGTCTGAGTAGCTTGGGTTTGAATACTACCAACTTCTCTGAACTACAGAGTCAGATGCAGCGACAACTTTTGTCTAACCCTGAAATGATGGTCCAGATCATGGAAAATCCCTTTGTTCAGAGCATGCTCTCAAATCCTGACCTGATGAGACAGTTAATTATGGCCAATCCACAAATGCAGCAGTTGATACAGAGAAATCCAGAAATTAGTCATATGTTGAATAATCCAGATATAATGAGACAAACGTTGGAACTTGCCAGGAATCCAGCAATGATGCAGGAGATGATGAGGAACCAGGACCGAGCTTTGAGCAACCTAGAAAGCATCCCAGGGGGATATAATGCTTTAAGGCGCATGTACACAGATATTCAGGAACCAATGCTGAGTGCTGCACAAGAGCAGTTTGGTGGTAATCCATTTGCTTCCTTGGTGAGCAATACATCCTCTGGTGAAGGTAGTCAACCTTCCCGTACAGAAAATAGAGATCCACTACCCAATCCATGGGCTCCACAGACTTCCCAGAGTTCATCAGCTTCCAGCGGCAC	335	DQLVLIFAGKILKDQDTLSQHGIHDGLTVHLVIKTQNRPQDHSAQQTNTAGSNVTTSSTPNSNSTSGSATSNPFGLGGLGGLAGLSSLGLNTTNFSELQSQMQRQLLSNPEMMVQIMENPFVQSMLSNPDLMRQLIMANPQMQQLIQRNPEISHMLNNPDIMRQTLELARNPAMMQEMMRNQDRALSNLESIPGGYNALRRMYTDIQEPMLSAAQEQFGGNPFASLVSNTSSGEGSQPSRTENRDPLPNPWAPQTSQSSSASSG
Shigella ipaC	5	prey67491	135	AAAGAAAGATGTCAAGCAGCCAGAAGAACTCCCTCCCATCACAACCACAACAACTTCTACTACACCAGCTACCAACACCACTTGTACAGCCACGGTTCCACCACAGCCACAGTACAGCTACCACGACATCAATGTCTATTCCCTTGCGGGCTTGGCACCACACATTACTCTAAATCCAACAATTCCCTTGTTTCAGGCCCATCCACAGTTGAAGCAGTGTGTGCGTCAGGCAATTGAACGGGCTGTCCAGGAGCTGGTCCATCCTGTGGTGGATCGATCAATTAAGATTGCCATGACTACTTGTGAGCAAATAGTCAGGAAGGATTTTGCCCTGGATTCGGAGGAATCTCGAATGCGAATAGCAGCTCATCACATGATGCGTAACTTGACAGCTGGAATGGCTATGATTACATGCAGGGAACCTTTGCTCATGAGCATATCTACCAACTTAAAAAACAGTTTTGCCTCAGCCCTTCGTACTGCTTCCCCACAACAAAGAGAAATGATGGATCAGGCAGCTGCTCAATTAGCTCAGGACAATTGTGAGTTGGCTTGCTGTTTTATTCAGAAGACTGCAGTAGAAAAAGCAGGCCCTGAGATGGACAAGAGATTAGCAACTGAATTTGAGCTGAGAAAACATGCTAGGCAAGAAGGACGCAGATACTGTGATCCTGTTGTTTTAACATATCAAGCTGAACGGATGCCAGAGCAAATCAGGCTGAAAGTTGGTGGTGTGGACCCAAAGCAGTTGGCTGTTTACGAAGAGTTTGCACGCAATGTTCCTGGCTTCTTACCTACAAATGACTTAAGTCAGCCCACGGGATTTTTAGCCCAGCCCATGAAGCAAGCTTGGGCAACAGATGATGTAGCTCAGATTTATGATAAGTGTATTACAGAACTGGAGCAACATCTACATGCCATCCCACCAACTTTGGCCATGAACCCTCAAGCTCAGGCTCTTCGAAGTCTCTTGGAGGTTGTAGTTTTATCT	336	KKDVKQPEELPPITTTTTSTTPATNTTCTATVPPQPQYSYHDINVYSLAGLAPHITLNPTIPLFQAHPQLKQCVRQAIERAVQELVHPVVDRSIKIAMTTCEQIVRKDFALDSEESRMRIAAHHMMRNLTAGMAMITCREPLLMSISTNLKNSFASALRTASPQQREMMDQAAAQLAQDNCELACCFIQKTAVEKAGPEMDKRLATEFELRKHARQEGRRYCDPVVLTYQAERMPEQIRLKVGGVDPKQLAVYEEFARNVPGFLPTNDLSQPTGFLAQPMKQAWATDDVAQIYDKCITELEQHLHAIPPTLAMNPQAQALRSLLEVVVLSRNSRDAIAALGLLQKAVEGLLDATSGADADLLLRY

				CGAAACTCTCGGGATGCCATAGCTGCTCTTGGATTGCTCCAAAAGGCTGTAGAGGGCTTACTAGATGCCACAAGTGGTGCTGATGCTGACCTTCTGCTGCGCTAC		
Shigella ipaC	5	prey323	136	AGACTCTATTCCGACACCCTCCAACATGGAGGAAACGCAACAGAAATCCAATCTAGAGCTGCTCCGCATCTCCCTGCTGCTCATCGAGTCGTGGCTGGAGCCCGTGCGGTTCCTCAGGAGTATGTTCGCCAACAACCTGGTGTATGACACCTCGGACAGCGATGACTATCACCTCCTAAAGGACCTAGAGGAAGGCATCCAAACGCTGATGGGGAGGCTGGAAGACGGCAGCCGCCGGACTGGGCAGATCCTCAAGCAGACCTACAGCAAGTTTGACACAAACTCGCACAACCATGACGCACTGCTCAAGAACTACGGGCTGCTCTACTGCTTCAGGAAGGACATGGACAAGGTCGAGACATTCCTGCGCATGGTGCAGTGCCGCTCTGTGGAGGGCAGCTGTGGCTTCTAG	337	DSIPTPSNMEETQQKSNLELLRISLLLIESWLEPVRFLRSMFANNLVYDTSDSDDYHLLKDLEEGIQTLMGRLEDGSRRTGQILKQTYSKFDTNSHNHDALLKNYGLLYCFRKDMDKVETFLRMVQCRSVEGSCGF*
Shigella ipaC	5	prey67495	137	GCAGCAGTCTCTGTGCTGAAACCCTTCTCCAAGGGCGCGCCTTCTACCTCCAGCCCTGCAAAAGCCCTACCACAGGTGAGAGACAGATGGAAAGACTTAACCCACGCTATTTCCATTTTAGAAAGTGCAAAGGCTAGAGTTACAAATACGAAGACGTCTAAACCAATCGTACATGCCAGAAAAAAATACCGCTTTCACAAAACTCGCTCCCACGTGACCCACAGAACACCCAAAGTCAAAAAGAGTCCAAAGGTCAGAAAGAAAAGTTATCTGAGTA	338	AAVSVLKPFSKGAPSTSSPAKALPQVRDRWKDLTHAISILESAKARVTNTKTSKPIVHARKKYRFHKTRSHVTHRTPKVKKSPKVRKKSYLS
Shigella ipaC	5	prey67506	138	GAGAGCCATCCCCAATCAGGGGGAGATCCTGGTGATCCGCAGGGGCTGGCTGACCATCAACAACATCAGCCTGATGAAAGGCGGCTCCAAGGAGTACTGGTTTGTGCTGACTGCCGAGTCACTGTCCTGGTACAAGGATGAGGAGGAGAAAGAGAAGAAGTACATGCTGCCTCTGGACAACCTCAAGATCCGTGATGTGGAGAAGGGCTTCATGTCCAACAAGCACGTCTTCGCCATCTTCAACACGGAGCAGAGAAACGTCTACAAGGACCTGCGGCAGATCGAGCTGGCCTGTGACTCCCAGGAAGACGTGGACAGCTGGAAGGCCTCGTTCCTCCGAGCTGGCGTCTACCCCGAGAAGGACCAGGCAGAAAACGAGGATGGGGCCCAGGAGAACACCTTCTCCATGGACCCCCAACTGGAGCGGCAGGTGGAGACCATTCGCAACCTGGTGGACTCATACGTGGCCATCATCAACAAGTCCATCCGCGACCTCATGCCAAAGACCATCATGCACCTCATGATCAACAATACGAAGGCCTTCATCCACCACGAGCTGCTGGCCTACCTATACTCCTCGGCAGACCAGAGCAGCCTCATGGAGGAGTCGGCTGACCAGGCACAGCGGCGGGACGACATGCTGCGCATGTACCATGCCCTCAAGGAGGCGCTCAACATCATCGGTGACATCAGCACCAGCACTGTGTCCACGCCTGTACCCCCGCC	339	RAIPNQGEILVIRRGWLTINNISLMKGGSKEYWFVLTAESLSWYKDEEEKEKKYMLPLDNLKIRDVEKGFMSNKHVFAIFNTEQRNVYKDLRQIELACDSQEDVDSWKASFLRAGVYPEKDQAENEDGAQENTFSMDPQLERQVETIRNLVDSYVAIINKSIRDLMPKTIMHLMINNTKAFIHHELLAYLYSSADQSSLMEESADQAQRRDDMLRMYHALKEALNIIGDISTSTVSTPVPP
Shigella ipaC	5	prey4578	139	CCAGAAGCAGCTGGAGTCCAATAAGATCCCAGAGCTGGACATGACTGAGGTGGTGGCCCCCTTCATGGCCAACATCCCTCTCCTCCTCTACCCTCAGGACGGCCCCCGCAGCAAGCCCCAGCCAAAGGATAATGGGGACGTTTGCCAGGACTGCATTCAGATGGTGACTGACATCCAGACTGCTGTACGGACCAACTCCACCTTTGTCCAGGCCTTGGTGGAACATGTCAAGGAGGAGTGTGACCGCCTGGGCCCTGGCATGGCCGACATATGCAAGAACTATATCAGCCAGTATTCTGAAATTGCTA	340	QKQLESNKIPELDMTEVVAPFMANIPLLLYPQDGPRSKPQPKDNGDVCQDCIQMVTDIQTAVRTNSTFVQALVEHVKEECDRLGPGMADICKNYISQYSEIAIQMMMHMQPKEI

				TCCAGATGATGATGCACATGCAACCCAAGGAGATCTGTGCGCTGGTTGGGTTCTGTGATGAGGTGAAAGAGATGCCCATGCAGACTCTGGTCCCCGCCAAAGTGGCCTCCAAGAATGTCATCCCTGCCCTGGAACTGGTGGAGCCCATTAAGAAGCACGAGGTCCCAGCAAAGTCTGATGTTTACTGTGAGGTGTGTGAATTCCTGGTGAAGGAGGTGACCAAGCTGATTGACAACAACAAGACTGAGAAAGAAATACTCGACGCTTTTGACAAAATGTGCTCGAAGCTGCCGAAGTCCCTGTCGGAAGAGTGCCAGGAGG		CALVGFCDEVKEMPMQTLVPAKVASKNVIPALELVEPIKKHEVPAKSDVYCEVCEFLVKEVTKLIDNNKTEKEILDAFDKMCSKLPKSLSEECQE
Shigella ipaC	5	prey1135	140	TGCAGCCTTAGTGGCATCTAAAGTATTTTATCACCTGGGGGCTTTTGAGGAGTCTCTGAATTATGCTCTTGGAGCAAGGGACCTCTTCAATGTCAATGATAACTCTGAATATGTGGAAACTATTATAGCAAAATGCATTGATCACTACACCAAACAATGTGTGGAAAATGCAGATTTGCCTGAAGGAGAAAAAAAACCAATTGACCAGAGATTGGAAGGCATCGTAAATAAAATGTTCCAGCGATGTCTAGATGATCACAAGTATAAACAGGCTATTGGCATTGCTCTGGAGACACGAAGACTGGACGTCTTTGAAAAGACCATACTGGAGTCGAATGATGTCCCAGGAATGTTAGCTTATAGCCTTAAGCTCTGCATGTCTTTAATGCAGAATAAACAGTTTCGGAATAAAGTACTAAGAGTTCTAGTTAAAATCTACATGAACTTGGAGAAACCTGATTTCATCAATGTTTGTCAGTGCTTAATTTTCTTAGATGATCCTCAGGCTGTGAGTGATATCTTAGAGAAACTGGTAAAGGAAGACAACCTCCTGATGGCATATCAGATTTGTTTTGATTTGTATGAAAGTGCTAGCCAGCAGTTTTTGTCATCTGTAATCCAGAATCTTCGAACTGTTGGCACCCCTATTGCTTCTGTGCCTGGATCCACTAATACGGGTACTGTTCCGGGATCAGAGAAAGACAGTGACTCGATGGAAACAGAAGAAAAGACAAGCAGTGCATTTGTAGGAAAGACAC	341	AALVASKVFYHLGAFEESLNYALGARDLFNVNDNSEYVETIIAKCIDHYTKQCVENADLPEGEKKPIDQRLEGIVNKMFQRCLDDHKYKQAIGIALETRRLDVFEKTILESNDVPGMLAYSLKLCMSLMQNKQFRNKVLRVLVKIYMNLEKPDFINVCQCLIFLDDPQAVSDILEKLVKEDNLLMAYQICFDLYESASQQFLSSVIQNLRTVGTPIASVPGSTNTGTVPGSEKDSDSMETEEKTSSAFVGKT
Shigella ipaC	5	prey67465	141	CACTGCGCCGCTGCCCATGATGCCCGTGGCCGAGGACGAGATCAAGCCCTACATCAGCCGCTGTTCTGTGTGTGAGGCCCCGGCCATCGCCATCGCGGTCCACAGTCAGGATGTCTCCATCCCACACTGCCCAGCTGGGTGGCGGAGTTTGTGGATCGGATATTCCTTCCTCATGCACACGGCGGCGGGAGACGAAGGCGGTGGCCAATCACTGGTGTCACCGGGCAGCTGTCTAGAGGACTTCCGCGCCACACCATTCATCGAATGCAATGGAGGCCGCGGCACCTGCCACTACTACGCCAACAAGTACAGCTTCTGGCTGACCACCATTCCCGAGCAGAGCTTCCAGGGCTCGCCCTCCGCCGACACGCTCAAGGCCGGCCTCATCCGCACACACATCAGCCGCTGCCAGGTGTGCATGAAGAACCTGTGA	342	TAPLPMMPVAEDEIKPYISRCSVCEAPAIAIAVHSQDVSIPHCPAGWRSLWIGYSFLMHTAAGDEGGGQSLVSPGSCLEDFRATPFIECNGGRGTCHYYANKYSFWLTTIPEQSFQGSPSADTLKAGLIRTHISRCQVCMKNL*
Shigella ipaC	5	prey28880	142	AAGATCAAGTGGCTTACCTTATCCAACAAAATGTTATCCCACCTTTTTGCAACTTGCTGACTGTAAAAGATGCACAAGTTGTGCAAGTAGTACTCGATGGACTAAGTAATATATTAAAAATGGCTGAAGATGAGGCAGAAACCATAGGCAATCTTATAGAAGAATGTGGAGGGCTGGAGAAAATTGAACAACTTCAAAATCATGAAAATGAAGACATCTACAAATTGGCCTATGAGATCATTGATCAGTTCTTCTCTTCAGATGATATTGATGAAGACCCTAGCCTTGTTCCAGAGGCAATTCAAGGCGGAACATTTGGTTTCAATTCATCTGCCAATGTACCAACAGAAGGGTTCCAGTTTTAG	343	DQVAYLIQQNVIPPFCNLLTVKDAQVVQVVLDGLSNILKMAEDEAETIGNLIEECGGLEKIEQLQNHENEDIYKLAYEIIDQFFSSDDIDEDPSLVPEAIQGGTFGFNSSANVPTEGFQF*
Shigella	5	prey3599	143	GGCAGTTATTGAGATGTGTCAGTTACTGGTCATGGGAAATGAGGAGACACTG	344	AVIEMCQLLVMGNEETLGG

ipaC				GGAGGGTTTCCTGTCAAGAGTGTTGTTCCAGCTTTGATTACGTTACTTCAGAT GGAGCACAATTTTGATATTATGAACCATGCTTGTCGAGCCTTAACATACATGA TGGAAGCACTTCCTCGATCTTCTGCTGTTGTAGTAGATGCTATTCCTGTCTTT TTAGAAAAGCTGCAAGTTATTCAGTGTATTGATGTGGCAGAGCAGGCCTTGA CTGCCTTGGAGATGTTGTCACGGAGACATAGTAAAGCCATTCTACAGGCGG GTGGTTTGGCAGACTGCTTGCTGTACCTAGAATTCTTCAGCATAAATGCCCA AAGAAATGCATTAGCAATTGCAGCTAATTGCTGCCAGAGTATCACGCCAGAT GAATTTCATTTTGTGGCAGATTCACTCCCATTGCTAACCCAAAGGCTAACACA TCAGGATAAAAAGTCAGTAGAAAGCACTTGCCTTTGTTTTGCACGCCTAGTG GACAACTTCCAGCATGAGGAGAATTTACTCCAGCAGGTTGCTTCCAAAGATC TGCTTACAAATGTTCAACAGCTGTTGGTAGTGACTCCACCCATTTTAAGTTCT GGGATGTTTATAATGGTGGTTCGCATGTTTTCTCTGATGTGTTCCAACTGTCC AACTTTAGCTGTTCAACTTATGAAACAAAACATTGCAGAAACGCTTCACTTTC TCCTGTGTGGTGCCTCCAATGGAAGTTGTCAGGAACAGATTGATCTTGTTCC ACGAAGCCCTCAAGAGTTGTATGAACTGACATCTCTGATTTGTGAACTTATGC CATGTTTACCAAAAGAAGGCATTTTTGCAGTTGATACCATGTTGAAGAAGGGA AATGCACAGAACACAGATGGTGCGATATGGCAGTGGCGTGATGATCGGGGC CTCTGGCATCCATATAACAGGATTGACAGCCGGATCATTGAGCAAATCAATG AGGACACGGGAACAGCACGTGCCATTCAGAGAAAACCTAACCCGTTAGCCA ATAGTAACACTAGTGGATATTCAGAGTCAAAGAAGGATGATGCTCGAGCACA GCTTATGAAAGAGGATCCGGAACTGGCTAAGTCTTTTATTAAGACATTATTTG GTGTTCTTTATGAAGTGTATAGTTCCTCAGCAGGACCTGCGGTCAGACATAA GTGCCTTAGAGCAATTCTTAGGATAATTTATTTTGCGGATGCTGAACTTCTGA AGGATGTTCTGAAAAATCATGCTGTTTCAAGTCACATTGCTTCCATGCTGTCA AGCCAAGACCTGAAGATAGTAGTGGGAGCACTTCAGATGGCAGAAATTTTAA TGCAGAAGTTACCTGATATTTTTAGTGTTTACTTCAGAAGAGAAGGTGTAATG CATCAAGTAAAACACTTAGCAGAATCAGAGTCTTTGTTGACAAGTCCACCAAA GGCATGTACGAATGGATCGGGATCCATGGGATCCACAACTTCAGTCAGCAG TGGGACAGCCACAGCTGCCACTCATGCTGCAGCTGACTTGGGATCACCCAG CTTGCAGCACAGCAGGGATGATTCTTTAGATCTCAGCCCTCAAGGTCGATTA AGTGATGTTCTAAAGAGAAAACGACTGCCAAAACGAGGGCCAAGAAGGCCA AAGTACTCACCTCCAAGAGATGATGACAAAGTAGACAATCAAGCTAAAAGCC CCACCACTACTCAGTCACCTAAATCTTCTTTCCTGGCAAGCTTGAATCCAAAA ACATGGGGAAGGTTAAGTACACAGTCCAACAGCAACAACATTGAGCCAGCAC GGACTGCGGGAGGTAGTGGCCTTGCCAGGGCTGCCTCAAAGGATACCATCT CCAATAATAGAGAAAAAATTAAAGGTTGGATTAAGGAGCAGGCACATAAATTT GTAGAACGTTATTTCAGTTCTGAGAATATGGATGGAAGCAACCCTGCATTGA ATGTCCTTCAGAGACTTTGTGCTGCAACCGAACAACTCAACCTCCAGGTGGA TGGTGGAGCTGAGTGCCTTGTAGAAATCCGTAGCATAGTCTCAGAGTCAGAT		FPVKSVVPALITLLQMEHNF DIMNHACRALTYMMEALPR SSAVVVDAIPVFLEKLQVIQ CIDVAEQALTALEMLSRRH SKAILQAGGLADCLLYLEFF SINAQRNALAIAANCCQSIT PDEFHFVADSLPLLTQRLT HQDKKSVESTCLCFARLVD NFQHEENLLQQVASKDLLT NVQQLLVVTPPILSSGMFIM VVRMFSLMCSNCPTLAVQL MKQNIAETLHFLLCGASNG SCQEQIDLVPRSPQELYEL TSLICELMPCLPKEGIFAVD TMLKKGNAQNTDGAIWQW RDDRGLWHPYNRIDSRIIE QINEDTGTARAIQRKPNPLA NSNTSGYSESKKDDARAQ LMKEDPELAKSFIKTLFGVL YEVYSSSAGPAVRHKCLRA ILRIIYFADAELLKDVLKNHA VSSHIASMLSSQDLKIVVGA LQMAEILMQKLPDIFSVYFR REGVMHQVKHLAESESLLT SPPKACTNGSGSMGSTTS VSSGTATAATHAAADLGSP SLQHSRDDSLDLSPQGRLS DVLKRKRLPKRGPRRPKYS PPRDDDKVDNQAKSPTTT QSPKSSFLASLNPKTWGRL STQSNSNNIEPARTAGGSG LARAASKDTISNNREKIKG WIKEQAHKFVERYFSSENM DGSNPALNVLQRLCAATEQ LNLQVDGGAECLVEIRSIVS ESDVSSFEIQHSGFVKQLLL YLTSKSEKDAVSREIRLKRF LHVFFSSPLPGEEPIGRVEP VGNAPLLALVHKMNNCLSQ

				GTTTCATCATTTGAAATCCAACATAGTGGATTTGTGAAGCAGCTGTTGCTTTA TTTGACATCTAAAAGTGAAAAGGATGCTGTGAGCAGAGAGATCAGATTAAAG CGATTTCTTCATGTATTTTTTTCTTCTCCACTTCCTGGAGAAGAGCCCATTGG AAGAGTGGAACCAGTGGGTAATGCACCTTTGTTGGCATTAGTTCACAAGATG AACAACTGCCTCAGCCAGATGGAACAATTTCCAGTCAAAGTACATGATTTCC CTAGTGGAAATGGGACAGGAGGCAGCTTTTCTCTCAACAGAGGATCACAGG CTTTAAAATTTTTCAACACACATCAATTAAAATGCCAGTTACAAAGGCATCCA GACTGTGCAAATGTGAAGCAGTGGAAGGGTGGACCTGTCAAGATTGACCCT CTGGCTTTGGTACAAGCCATCGAGAGATACCTTGTAGTTAGAGGGTATGGAA GAGTAAGAGAAGATGATGAAGACAGCGATGACGATGGATCAGATGAGGAAA TAGATGAGTCTCTGGCTGCTCAGTTCCTAAATTCAGGAAATGTAAGACACAG GCTGCAGTTTTATATTGGAGAACATTTGCTGCCGTATAACATGACTGTGTATC AGGCAGTACGGCAGTTTAGTATACAGGCTGAAGATGAAAGAGAATCCACAGA TGATGAGAGCAATCCTCTAGGCAGAGCTGGTATTTGGACAAAGACTCATACA ATATGGTATAAACCTGTGAGAGAGGATGAAGAAAGTAATAAAGATTGTGTTG GTGGTAAAAGAGGAAGAGCCCAAACAGCTCCAACGAAAACTTCCCCTAGAAA TGCAAAAAAGCATGATGAGTTATGGCACGATGGAGTGTGCCCATCAGTATCA AATCCTTTAGAAGTTTACCTCATTCCCACACCACCTGAAAATATAACATTTGAA GACCCGTCATTAGATGTGATCCTTCTTTTAAGAGTTTTACATGCTATCAGTCG ATACTGGTATTACTTGTATGATAATGCAATGTGCAAGGAAATTATTCCAACTA GTGAATTTATTAACAGTAAGTTAACAGCAAAAGCAAATAGGCAACTTCAAGAT CCTTTAGTAATCATGACAGGAAACATCCCAACATGGCTTACTGAGCTAGGAA AAACCTGCCCATTTTTCTTTCCTTTTGATACCCGGCAAATGCTTTTTTATGTAA CTGCATTTGATCGGGACCGAGCAATGCAAAGATTACTTGATACCAACCCAGA AATCAACCAGTCTGATTCTCAAGATAGCAGAGTTGCACCTAGATTGGATAGA AAAAAACGTACTGTGAACCGAGAGGAGCTGCTGAAACAGGCGGAGTCTGTG ATGCAGGACCTCGGCAGCTCACGGGCCATGTTAGAAATCCAGTATGAAAATG AGGTTGGTACAGGTCTTGGGCCTACACTGGAGTTTTATGCGCTTGTATCTCA GGAACTACAGAGAGCTGACTTGGGTCTTTGGAGAGGTGAAGAAGTAACTCTT AGCAATCCAAAAGGGAGCCAAGAAGGGACCAAGTATATTCAAAACCTCCAGG GCCTGTTTGCGCTTCCCTTTGGTAGGACAGCAAAGCCAGCTCATATCGCAAA GGTTAAGATGAAGTTTCGCTTCTTAGGAAAATTAATGGCCAAGGCTATCATG GATTTCAGATTGGTGGACCTTCCCCTTGGCTTACCCTTTTATAAATGGATGCT ACGGCAAGAAACTTCACTGACATCACACGATTTGTTTGACATCGACCCAGTT GTAGCCAGATCAGTTTATCACCTAGAAGACATTGTCAGACAGAAGAAAAGAC TTGAACAAGATAAATCCCAGACCAAAGAGAGTCTACAGTATGCATTAGAAAC CTTGACTATGAATGGCTGCTCAGTTGAAGATCTAGGACTGGATTTCACTCTG CCAGGGTTTCCCAATATCGAACTGAAGAAAGGAGGGAAGGATATACCAGTCA CTATCCACAATTTAGAGGAGTATCTAAGACTGGTTATATTCTGGGCACTAAAT		MEQFPVKVHDFPSGNGTG GSFSLNRGSQALKFFNTHQ LKCQLQRHPDCANVKQWK GGPVKIDPLALVQAIERYLV VRGYGRVREDDEDSDDDG SDEEIDESLAAQFLNSGNV RHRLQFYIGEHLLPYNMTV YQAVRQFSIQAEDERESTD DESNPLGRAGIWTKTHTIW YKPVREDEESNKDCVGGK RGRAQTAPTKTSPRNAKK HDELWHDGVCPSVSNPLE VYLIPTPPENITFEDPSLDVI LLLRVLHAISRYWYYLYDNA MCKEIIPTSEFINSKLTAKAN RQLQDPLVIMTGNIPTWLT ELGKTCPFFFPFDTRQMLF YVTAFDRDRAMQRLLDTNP EINQSDSQDSRVAPRLDRK KRTVNREELLKQAESVMQ DLGSSRAMLEIQYENEVGT GLGPTLEFYALVSQELQRA DLGLWRGEEVTLSNPKGS QEGTKYIQNLQGLFALPFG RTAKPAHIAKVKMKFRFLG KLMAKAIMDFRLVDLPLGLP FYKWMLRQETSLTSHDLFD IDPVVARSVYHLEDIVRQKK RLEQDKSQTKESLQYALET LTMNGCSVEDLGLDFTLPG FPNIELKKGGKDIPVTIHNLE EYLRLVIFWALNEGVSRQF DSFRDGFESVFPLSHLQYF YPEELDQLLCGSKADTWD AKTLMECCRPDHGYTHDS RAVKFLFEILSSFDNEQQRL FLQFVTGSPRLPVGGFRSL NPPLTIVRKTFESTENPDDF LPSVMTCVNYLKLPDYSSIE

				GAAGGCGTTTCTAGGCAATTTGATTCGTTCAGAGATGGATTTGAATCAGTCTT CCCACTCAGTCATCTTCAGTACTTCTACCCGGAGGAACTGGATCAGCTCCTT TGTGGCAGTAAAGCAGACACTTGGGATGCAAAGACACTGATGGAATGCTGTA GGCCTGATCATGGTTATACTCATGACAGTCGGGCTGTGAAGTTTTTGTTTGA GATTCTCAGTAGTTTTGATAATGAGCAGCAGAGGTTATTTCTCCAGTTTGTGA CTGGTAGCCCAAGATTGCCTGTTGGAGGATTCCGGAGTTTGAATCCACCTTT GACAATTGTCCGAAAGACGTTTGAATCAACAGAAAACCCAGATGACTTCTTG CCCTCTGTAATGACTTGTGTGAACTATCTTAAGTTGCCGGACTATTCAAGCAT TGAGATAATGCGTGAAAAACTGTTGATAGCAGCAAGAGAAGGGCAGCAGTC GTTCCATCTTTCCTGA			IMREKLLIAAREGQQSFHLS *	
Shigella ipaH9.8	6	prey67717	144	GCGGGACATCCAGTATTGGGCTCACGTGCATAAGACTGTCCCAGACAGCAG CACAATCACGTTCAGCCAAGTGGAGTTTCCGACGCACTTGTGTGGCAGCCG CGTGAATGTGAGCCGATATGCAGCTGGGAGGGGTTGTGGGCCTCCTGCGGT GAGGGGCTCCTGCCAGGAGCTCTGAGAAGCCTCCACAGAATCAGCCGTCG GGCTCCTTCAGCAGCAGCTCCCCTTATCTGTGCCAACGACTGGGGGCCTAA CTCAAGGGTGCCAGCCCGTCTTCCGCCAATACAGACTGTGGGATTCTGAGA GTTAGGAGCCTGGGGTCCCCTGGGGTGGGGTGGTCAGGGTGAGCAGGTGG GCTCTGTGAGCCTGTTTCCCCATGCCCTGACTCACCCCAATCCCTGGGTGA GGACAGAGCTCCTGAAGGCCACTGAAGGAGGTGCAGCACACTCCACCTGG GTGGCCTTCCGCAGCTCAGCCCTCTTCCTGCCAGCAGGAAGCCTCTGCCTG CGCTCCTTAAGTTAGCCATCCTCACCCCCTCCGGGCAGCTCTGAGACTGAG CCAGGGCCACTAGCAGCACCCAGACCTCGACCCTTCTCAGACCGAGGCGCC ACCACCCCAGGCCGAGGAGGCAAGGAGGGAAGACCAAAGTCTAGAGGACT GTCTTGGTGGCCCTGGGCGAGTCTTGAACTTTGGTGCCATCATCTGCAAAAG GGAGGAAAGAATGCCTGCGTGGTGCAGCTACGTGGATACGCAGTGAAGACC CGCATGGTGGGACGCCTGGCACTTAACAATGGTAGCATTTGGCCGGGCGCG GTGGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGCGGGCGGAT CACGAGGTCAGGAGATCAAGACCATCCCGGCTAAAACGGTGAAACCCCGTC TCTACTAAAAATACAAAAAATTAGCCGGGCGTAGTGGCGGGCGCCTGTAGTC CCAGCTACTTGGGAGGCTGAGGCAGGAGAATGGTGTGAACCCGGGAGGCG GAGCTTGCAGTGAGCCGAGATCCCGCCACTGCACTCCAGCCTGGGCGACA GAGCGAGACTCCGTCTCAAAAAAAAAAAAAAAAAACAATGGTAGCATCGTTTTC AGTGCCCAGGAAGAAGGCAGCTGGGACAGGGAAAGGGCCACCACACCACA CCCAAGCCTATACAACAGGAGAGCCACTTTCAGCAGCTCTGAGCAGGACAG ACTTGTGGCCAAGTCAAGAAAGTAAGGTCTGGTCCCAGCGAGGTGGCTCAT CCCTGTAATCCCAGTGCTTTGGGAGGCCGAAGCGGGGGCGGGGTGGATCA CTTGAGGTCAGGGGTTTGAGACCAGCCCGACCAACATGGTGAAACCCCGTC TCTACTAAGAATATAAAAATTAGCCGGGCGTGGTGGCGCGTGCCTGTAATCT CAGCTGCTTGGGAGGCTGAGGCAGGAGAATCGCTTGAACCCGGGAGGCAG	345		AGHPVLGSRA*DCPRQQH NHVQPSGVSDALVWQPRE CEPICSWEGLWASCGEGL LPGALRSLHRISRRAPSAA APLICANDWGPNSRVPARL PPIQTVGF*ELGAWGPLGW GGQGEQVGSVSLFPHALT HPNPWVRTELLKATEGGA AHSTWVAFRSSALFLPAGS LCLRSLS*PSSPPPGSSETE PGPLAAPRPRPFSDRGATT PGRGGKEGRPKSRGLSW WPWASLELWCHHLQKGG KNACVVQLRGYAVKTRMV GRLALNNGSIWPGAVAHAC NPSTLGGRGGRITRSGDQ DHPG*NGETPSLLKIQKISR A*WRAPVVPATWEAEAGE WCEPGRRSLQ*AEIPPLHS SLGDRARLRLKKKKNNGS IVFSAQEEGSWDRERATTP HPSLYNRRATFSSSEQDRL VAKSRK*GLVPARWLIPVIP VLWEAEAGAGWIT*GQGFE TSPTNMVKPRLY*EYKN*P GVVARACNLSCLGG*GRRI A*TREAEVAVSRDRATTVQ PGGSVRLGL	

				AGGTTGCAGTGAGCCGAGATCGAGCCACTACTGTCCAGCCCGGCGGCAGT GTGAGGCTCGGTCTC		
Shigella ipaH9.8	6	prey700	145	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGC	346	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH HGYCATAE
Shigella ipaH9.8	6	prey67718	146	ATGGGTGGATTATTTTCTCGATGGAGGACAAAACCTTCAACTGTAGAAGTTCT AGAAAGTATAGATAAGGAAATTCAAGCATTGGAAGAATTTAGGGAAAAAAATC AGAGATTACAAAAATTATGGGTTGGAAGATTAATTCTGTATTCCTCAGTTCTC TATCTGTTTACATGCTTAATTGTATATTTGTGGTATCTTCCTGATGAATTTACA GCAAGACTTGCCATGACACTCCCATTTTTTGCTTTTCCATTGATCATCTGGAG CATAAGAACAGTAATTATTTTCTTCTTTTCCAAGAGAACAGAAAGAAATAATGA AGCATTGGATGATTTAAAATCCCAGAGGAAAAAAATACTTGAAGAAGTCATGG AAAAAGAAACTTACAAGACG	347	MGGLFSRWRTKPSTVEVL ESIDKEIQALEEFREKNQRL QKLWVGRLILYSSVLYLFTC LIVYLWYLPDEFTARLAMTL PFFAFPLIIWSIRTVIIFFFSK RTERNNEALDDLKSQRKKI LEEVMEKETYKT
Shigella ipaH9.8	6	prey2530	147	ATGGGCGACAAAGGGACCCGAGTGTTCAAGAAGGCCAGTCCAAATGGAAAG CTCACCGTCTACCTGGGAAAGCGGGACTTTGTGGACCACATCGACCTCGTG GACCCTGTGGATGGTGTGGTCCTGGTGGATCCTGAGTATCTCAAAGAGCGG AGAGTCTATGTGACGCTGACCTGCGCCTTCCGCTATGGCCGGGAGGACCTG GATGTCCTGGGCCTGACCTTTCGCAAGGACCTGTTTGTGGCCAACGTACAGT CGTTCCCACCGGCCCCCGAGGACAAGAAGCCCCTGACGCGGCTGCAGGAA CGCCTCATCAAGAAGCTGGGCGAGCACGCTTACCCTTTCACCTTTGAGATCC CTCCAAACCTTCCATGTTCTGTGACACTGCAGCCGGGGCCCGAAGACACGG GGAAGGCTTGCGGTGTGGACTATGAAGTCAAAGCCTTCTGCGCGGAGAATT TGGAGGAGAAGATCCACAAGCGGAATTCTGTGCGTCTGGTCATCCGGAAGG TTCAGTATGCCCCAGAGAGGCCTGGCCCCCAGCCCACAGCCGAGACCACCA GGCAGTTCCTCATGTCGGACAAGCCCTTGCACCTAGAAGCCTCTCTGGATAA GGAGATCTATTACCATGGAGAACCCATCAGCGTCAACGTCCACGTCACCAAC AACACCAACAAGACGGTGAAGAAGATCAAGATCTCAGTGCGCCAGTATGCA GACATCTGCCTTTTCAACACAGCTCAGTACAAGTGCCCTGTTGCCATGGAAG AGGCTGATGACACTGTGGCACCCAGCTCGACGTTCTGCAAGGTCTACACAC TGACCCCCTTCCTAGCCAATAACCGAGAGAAGCGGGGCCTCGCCTTGGACG GGAAGCTCAAGCACGAAGACACGAACTTGGCCTCTAGCACCCTGTTGAGGG AAGGTGCCAACCGTGAGATCCTGGGGATCATTGTTTCCTACAAAGTGAAAGT	348	MGDKGTRVFKKASPNGKL TVYLGKRDFVDHIDLVDPV DGVVLVDPEYLKERRVYVT LTCAFRYGREDLDVLGLTF RKDLFVANVQSFPPAPEDK KPLTRLQERLIKKLGEHAYP FTFEIPPNLPCSVTLQPGPE DTGKACGVDYEVKAFCAE NLEEKIHKRNSVRLVIRKVQ YAPERPGPQPTAETTRQFL MSDKPLHLEASLDKEIYYH GEPISVNVHVTNNTNKTVK KIKISVRQYADICLFNTAQY KCPVAMEEADDTVAPSSTF CKVYTLTPFLANNREKRGL ALDGKLKHEDTNLASSTLL REGANREILGIIVSYKVKVK LVVSRGGLLGDLASSDVAV ELPFTLMHPKPKEEPPHRE

				GAAGCTGGTGGTGTCTCGGGGCGGCCTGTTGGGAGATCTTGCATCCAGCGA CGTGGCCGTGGAACTGCCCTTCACCCTAATGCACCCCAAGCCCAAAGAGGA ACCCCCGCATCGGGAAGTTCCAGAGAACGAGACGCCAGTAGATACCAATCT CATAGAACTTGACACAAATGATGACGACATTGTATTTGAGGACTTTGCTCGCC AGAGACTGAAAGGCATGAAGGATGACAAGGAGGAAGAGGAGGATGGTACCG GCTCTCCACAGCTCAACAACAGATAG		VPENETPVDTNLIELDTNDD DIVFEDFARQRLKGMKDDK EEEDGTGSPQLNNR*
Shigella ipaH9.8	6	prey67731	148	ATGTCAATAGCAGGAGTTGCTGCTCAGGAGATCAGAGTCCCATTAAAAACTG GATTTCTACATAATGGCCGAGCCATGGGGAATATGAGGAAGACCTACTGGAG CAGTCGCAGTGAGTTTAAAAACAACTTTTTAAATATTGACCCGATAACCATGG CCTACAGTCTGAACTCTTCTGCTCAGGAGCGCCTAATACCACTTGGGCATGC TTCCAAATCTGCTCCGATGAATGGCCACTGCTTTGCAGAAAATGGTCCATCT CAAAAGTCCAGCTTGCCCCCTCTTCTTATTCCCCCAAGTGAAAACTTGGGAC CACATGAAGAGGATCAAGTTGTATGTGGTTTTAAGAAACTCACAGTGAATGG GGTTTGTGCTTCCACCCCTCCACTGACACCCATAAAAAACTCCCCTTCCCTTT TCCCCTGTGCCCCTCTTTGTGAACGGGGTTCTAGGCCTCTTCCACCGTTGCC AATCTCTGAAGCCCTCTCTCTGGATGACACAGACTGTGAGGTGGAATTCCTA ACTAGCTCAGATACAGACTTCCTTTTAGAAGACTCTACACTTTCTGATTTCAA ATATGATGTTCCTGGCAGGCGAAGCTTCCGTGGGTGTGGACAAATCAACTAT GCATATTTTGATACCCCAGCTGTTTCTGCAGCAGATCTCAGCTATGTGTCTGA CCAAAATGGAGGTGTCCCAGATCCAAATCCTCCTCCACCTCAGACCCACCGA AGATTAAGAAGGTCTCATTCGGGACCAGCTGGCTCCTTTAACAAGCCAGCCA TAAGGATATCCAACTGTTGTATACACAGAGCTTCTCCTAACTCCGATGAAGAC AAACCTGAGGTTCCCCCCAGAGTTCCCATACCTCCTAGACCAGTAAAGCCAG ATTATAGAAGATGGTCAGCAGAAGTTACTTCGAGCACCTATAGTGATGAAGA CAGGCCTCCCAAAGTACCGCCAAGAGAACCTTTGTCACCGAGTAACTCGCG CACACCGAGTCCCAAAAGCCTTCCGTCTTACCTCAATGGGGTCATGCCCCC GACACAGAGCTTTGCCCCTGATCCCAAGTATGTCAGCAGCAAAGCACTGCAA AGACAGAACAGCGAAGGATCTGCCAGTAAGGTTCCTTGCATTCTGCCCATTA TTGAAAATGGGAAGAAGGTTAGTTCAACACATTATTACCTACTACCTGAACGA CCACCATACCTGGACAAATATGAAAAATTTTTTAGGGAAGCAGAAGAAACAAA TGGAGGCGCCCAAATCCAGCCATTACCTGCTGACTGCGGTATATCTTCAGCC ACAGAAAAGCCAGACTCAAAAACAAAAATGGATCTGGGTGGCCACGTGAAG CGTAAACATTTATCCTATGTGGTTTCTCCTTAG	349	MSIAGVAAQEIRVPLKTGFL HNGRAMGNMRKTYWSSR SEFKNNFLNIDPITMAYSLN SSAQERLIPLGHASKSAPM NGHCFAENGPSQKSSLPPL LIPPSENLGPHEEDQVVCG FKKLTVNGVCASTPPLTPIK NSPSLFPCAPLCERGSRPL PPLPISEALSLDDTDCEVEF LTSSDTDFLLEDSTLSDFKY DVPGRRSFRGCGQINYAYF DTPAVSAADLSYVSDQNG GVPDPNPPPPQTHRRLRR SHSGPAGSFNKPAIRISNC CIHRASPNSDEDKPEVPPR VPIPPRPVKPDYRRWSAEV TSSTYSDEDRPPKVPPREP LSPSNSRTPSPKSLPSYLN GVMPPTQSFAPDPKYVSS KALQRQNSEGSASKVPCIL PIIENGKKVSSTHYYLLPER PPYLDKYEKFFREAEETNG GAQIQPLPADCGISSATEKP DSKTKMDLGGHVKRKHLS YVVSP*
Shigella ipaH9.8	6	prey7155	149	GCTCCCGGACGTCCCTGCTCCTGGCTTTTGCCCTGCTCTGCCTGCCCTGGC TTCAAGAGGCTGGTGCCGTCCAAACCGTTCCGTTATCCAGGCTTTTTGACCA CGCTATGCTCCAAGCCCATCGCGCGCACCAGCTGGCCATTGACACCTACCA GGAGTTTGAAGAAACCTATATCCCAAAGGACCAGAAGTATTCATTCCTGCAT GACTCCCAGACCTCCTTCTGCTTCTCAGACTCTATTCCGACACCCTCCAACA TGGAGGAAACGCAACAGAAATCCAATCTAGAGCTGCTCCGCATCTCCCTGCT	350	SRTSLLLAFALLCLPWLQEA GAVQTVPLSRLFDHAMLQA HRAHQLAIDTYQEFEETYIP KDQKYSFLHDSQTSFCFSD SIPTPSNMEETQQKSNLEL LRISLLLIESWLEPVRFLRS

				GCTCATCGAGTCGTGGCTGGAGCCCGTGCGGTTCCTCAGGAGTATGTTCGCCAACAACCTGGTGTATGACACCTCGGACAGCGATGACTATCACCTCCTAAAGGACCTAGAGGAAGGCATCCAAACGCTGATGGGGGTGAGGGTGGCGCCAGGGGTCGCCAATCCTGGAACCCCACTGGCTTAG		MFANNLVYDTSDSDDYHLLKDLEEGIQTLMGVRVAPGVANPGTPLA*
Shigella ipaH9.8	6	prey1687	150	GGAGTATGATGCAGAGCGGCCCCCCAGCAAGCCTCCACCGGTTGAACTGCGGGCTGCTGCCCTTCGTGCAGAGATCACAGATGCTGAAGGCCTGGGTTTGAAGCTCGAAGATCGAGAGACAGTTATTAAGGAGTTGAAGAAGTCACTCAAGATTAAGGGAGAGGAGCTAAGTGAGGCCAATGTGCGGCTGAGCCTCCTGGAGAAGAAGTTGGACAGTGCTGCCAAGGATGCAGATGAGCGCATCGAGAAAGTCCAGACTCGGCTGGAGGAGACCCAGGCACTGCTGCGAAAGAAGGAGAAAGAGTTTGAGGAGACAATGGATGCACTCCAGGCTGACATCGACCAGCTGGAGGCAGAGAAGGCAGAACTAAAGCAGCGTCTGAACAGCCAGTCCAAACGCACGATTGAGGGACTCCGGGGCCCTCCTCCTTCAGGCATTGCTACTCTGGTCTCTGGCATTGCTGGTGAAGAACAGCAGCGAGGAGCCATCCCTGGGCAGGCTCCAGGGTCTGTGCCAGGCCCAGGGCTGGTGAAGGACTCACCACTGCTGCTTCAGCAGATCTCTGCCATGAGGCTGCACATCTCCCAGCTCCAGCATGAGAACAGCATCCTCAAGGGAGCCCAGATGAAGGCATCCTTGGCATCCCTGC	351	EYDAERPPSKPPPVELRAAALRAEITDAEGLGLKLEDRETVIKELKKSLKIKGEELSEANVRLSLLEKKLDSAAKDADERIEKVQTRLEETQALLRKKEKEFEETMDALQADIDQLEAEKAELKQRLNSQSKRTIEGLRGPPPSGIATLVSGIAGEEQQRGAIPGQAPGSVPGPGLVKDSPLLLQQISAMRLHISQLQHENSILKGAQMKASLASL
Shigella ipaH9.8	6	prey67734	151	ATGAGCCAGAGGGACACGCTGGTGCATCTGTTTGCCGGAGGATGTGGTGGTACAGTGGGAGCTATTCTGACATGTCCACTGGAAGTTGTAAAAACACGACTGCAGTCATCTTCTGTGACGCTTTATATTTCTGAAGTTCAGCTGAACACCATGGCTGGAGCCAGTGTCAACCGAGTAGTGTCTCCCGGACCTCTTCATTGCCTAAAGGTGATCTTGGAAAAAGAAGGGCCTCGTTCCTTGTTTAGAGGACTAGGCCCCAATTTAGTGGGGGTAGCCCCTTCCAGAGCAATATACTTTGCTGCTTATTCAAACTGCAAGGAAAAGTTGAATGATGTATTTGATCCTGATTCTACCCAAGTACATATGATTTCAGCTGCAATGGCAGGTTTTACTGCAATCACAGCAACCAACCCCATTTGGCTTATAAAGACTCGGTTACAGCTTGATGCAAGGAACCGCGGGGAAAGGCGAATGGGTGCTTTTGAATGTGTTCGTAAAGTGTATCAGACAGATGGACTAAAAGGATTTTATAGGGGCATGTCTGCTTCATATGCTGGTATATCAGAGACTGTTATCCATTTTGTTATTTATGAAAGTATAAAACAAAAACTACTGGAATATAAGACTGCTTCTACAATGGAAAATGGTGAAGAGTCTGTGAAAGAAGCATCAGATTTTGTGGGAATGATGCTAGCTGCTGCCACCTCAAAAACTTGTGCCACAACTATAGCATATCCACATGTTGTAAGAACAAGACTACGTGAAGAGGGAACAAAATACAGATCTTTTTTTCAGACTCTATCTTTGCTTGTTCAAGAAGAAGGTTATGGGTCTCTTTATCGTGGTCTGACAACTCATCTAGTGAGACAGATTCCAAACACAGCCATTATGATGGCCACCTATGAATTGGTGGTTTACCTACTCAATGGATAG	352	MSQRDTLVHLFAGGCGGTVGAILTCPLEVVKTRLQSSSVTLYISEVQLNTMAGASVNRVVSPGPLHCLKVILEKEGPRSLFRGLGPNLVGVAPSRAIYFAAYSNCKEKLNDVFDPDSTQVHMISAAMAGFTAITATNPIWLIKTRLQLDARNRGERRMGAFECVRKVYQTDGLKGFYRGMSASYAGISETVIHFVIYESIKQKLLEYKTASTMENGEESVKEASDFVGMMLAAATSKTCATTIAYPHVVRTRLREEGTKYRSFFQTLSLLVQEEGYGSLYRGLTTHLVRQIPNTAIMMATYELVVYLLNG*
Shigella ipaH9.8	6	prey2694	152	ATGGCACACGCTATGGAAAACTCCTGGACAATCAGTAAAGAGTACCATATTGATGAAGAAGTGGGCTTTGCTCTGCCAAATCCACAGGAAAATCTACCTGATTTTTATAATGACTGGATGTTCATTGCTAAACATCTGCCTGATCTCATAGAGTCTGGCCAGCTTCGAGAAAGAGTTGAGAAGTTAAACATGCTCAGCATTGATCATCTC	353	MAHAMENSWTISKEYHIDEEVGFALPNPQENLPDFYNDWMFIAKHLPDLIESGQLRERVEKLNMLSIDHLTDHKSQ

				ACAGACCACAAGTCACAGCGCCTTGCACGTCTAGTTCTGGGATGCATCACCA TGGCATATGTGTGGGGCAAAGGTCATGGAGATGTCCGTAAGGTCTTGCCAA GAAATATTGCTGTTCCTTACTGCCAACTCTCCAAGAAACTGGAACTGCCTCCT ATTTTGGTTTATGCAGACTGTGTCTTGGCAAACTGGAAGAAAAAGGATCCTAA TAAGCCCCTGACTTATGAGAACATGGACGTTTTGTTCTCATTTCGTGATGGAG ACTGCAGTAAAGGATTCTTCCTGGTCTCTCTATTGGTGGAAATAGCAGCTGC TTCTGCAATCAAAGTAATTCCTACTGTATTCAAGGCAATGCAAATGCAAGAAC GGGACACTTTGCTAAAGGCGCTGTTGGAAATAGCTTCTTGCTTGGAGAAAGC CCTTCAAGTGTTTCACCAAATCCACGATCATGTGAAC		RLARLVLGCITMAYVWGKG HGDVRKVLPRNIAVPYCQL SKKLELPPILVYADCVLANW KKKDPNKPLTYENMDVLFS FRDGDCSKGFFLVSLLVEIA AASAIKVIPTVFKAMQMQE RDTLLKALLEIASCLEKALQ VFHQIHDHVN
Shigella ipaH9.8	6	prey67740	153	GNATGNATTACNTGCNATANTGTAGAAATTGGGCATGNGGACAAGGGGATG GTTCATGTATCTCTTAACTGTCTGACATGGNAACATNGTCTATACCNAGTTNG NGTGCACTTTTAAAATGAATCCGATTTGTCTGCACTNNNNTNCCNCNTCTNCC TCNTTNTATGTGNGTGCAGCGTTTACNCTACTNCANTCTGANTGTACTTANTG GTNATCTTNCNTGCNNTTGNGGNTGGNGANGGTGNTCGCNTTTTTNTTCTGT GTACCNGNNNGGGGGGGN	354	XXITCXXVEIGHXDKGMVH VSLNCLTWXHXLYXVXVHF *NESDLSALXXXXXLXXCXC SVYXTXX*XYLXVIXXAXXX GXGXRXFXLCTXXGG
Shigella ipaH9.8	6	prey67703	154	GGCCATTGAGAAACTACTCGCTCTTCTCAACACGCTGGACAGGTGGATTGAT GAGACTCCTCCAGTGGACCAGCCCTCTCGGTTTGGGAATAAGGCATACAGG ACCTGGTATGCCAAACTTGATGAGGAAGCAGAAAACTTGGTGGCCACAGTG GTCCCTACCCATCTGGCAGCTGCTGTGCCTGAGGTGGCTGTTTACCTAAAG GAGTCAGTGGGGAACTCCACGCGCATTGACTACGGCACAGGGCATGAGGCA GCCTTCGCTGCTTTCCTCTGCTGTCTCTGCAAGATTGGGGTGCTCCGGGTG GATGACCAAATAGCTATTGTCTTCAAGGTGTTCAATCGGTACCTTGAGGTTAT GCGGAAACTCCAGAAAACATACAGGATGGAGCCAGCCGGCAGCCAGGGAG TGTGGGGTCTGGATGACTTCCAGTTTCTGCCCTTCATCTGGGGCAGTTCGCA GCTGATAGACCAC	355	AIEKLLALLNTLDRWIDETP PVDQPSRFGNKAYRTWYA KLDEEAENLVATVVPTHLA AAVPEVAVYLKESVGNSTR IDYGTGHEAAFAAFLCCLC KIGVLRVDDQIAIVFKVFNR YLEVMRKLQKTYRMEPAG SQGVWGLDDFQFLPFIWG SSQLIDH
Shigella ipaH9.8	6	prey67741	155	GACAAGTTGAGCCAAGCAAAAGCCTACTGCAACTTGGGCCTAGCATTCAAGG CTCTGCTGAATTTCAGTAAAGCTGAAGAGTGTCANGAAGTACCTACTGTCCC TAGCCCAGTCTCTGAATAATTCCCAGGCTAAATTTCGAGCCCTAGGAAACCT GGGCGATATATTCATCTGTAAAAAAGATATAAATGGTGCAATAAAATTCTATG AGCAGCAACTGGGCTTAGCTCACCAGGTAAAGGACAGAAGATTAGAAGCCA GTGCATATGCAGCCCT	356	DKLSQAKAYCNLGLAFKAL LNFSKAEECXEVPTVPSPV SE*FPG*ISSPRKPGRYIHL* KRYKWCNKIL*AATGLSSP GKGQKIRSQCICSP
Shigella ipaH9.8	6	prey67742	156	AGGTAATGGAGCTGGTGGTGGCAGCAGCCAGAAAACTCCACTCTTTGAAACT TACTCGGATTGGGACAGAGAAATCAAGAGGACAGGTGCTTCCGGGTGGAGA GTTTGTTCTATTAACGAGGGTTACATGATATCCACTTGCCTTCCAGAATACAT TGTAGTGCCAAGTTCTTTAGCAGACCAAGATCTAAAGATCTTTTCCCATTCTT TTGTTGGGAGAAGGATGCCACTCTGGTGCTGGAGCCACTCTAACGGCAGTG CTCTTGTGCGAATGGCCCTCATCAAAGACGTGCTGCAGCAGAGGAAGATTG ACCAGAGGATTTGTAATGCAATAACTAAAAGTCACCCACAGAGAAGTGATGT TTACAAATCAGATTTGGATAAGACCTTGCCTAATATTCAAGAAGTACAAGCAG	357	GNGAGGGSSQKTPLFETY SDWDREIKRTGASGWRVC SINEGYMISTCLPEYIVVPS SLADQDLKIFSHSFVGRRM PLWCWSHSNGSALVRMAL IKDVLQQRKIDQRICNAITKS HPQRSDVYKSDLDKTLPNI QEVQAAFVKLKQLCVNEPF

				CATTTGTAAAACTGAAGCAGCTATGCGTTAATGAGCCTTTTGAAGAAACTGAA GAGAAATGGTTATCTTCACTGGAAAATACTCGATGGTTAGAATATGTAAGGG CATTCCTTAAGCATTCAGCAGAACTTGTATACATGCTAGAAAGCAAACATCTC TCTGTAGTCCTACAAGAGGAGGAAGGAAGAGACTTGAGCTGTTGTGTAGCTT CTCTTGTTCAAGTGATGCTGGATCCCTATTTTAGGACAATTACTGGATTTCAG AGTCTGATACAGAAGGAGTGGGTCATGGCAGGATATCAGTTTCTAGACAGAT GCAACCATCTAAAGAGATCAGAGAAAGAGTCTCCTTTATTTTTGCTATTCTTG GATGCCACCTGGCAGCTGTTAGAACAATATCCTGCAGCTTTTGAGTTCTCCG AAACCTACCTGGCAGTGTTGTATGACAGCACCCGGATCTCACTGTTTGGCAC CTTCCTGTTCAACTCCCCTCACCAGCGAGTGAAGCAAAGCACGGTCAGTAG GATAAAAAGTTGTACAAAACAAGATTATTTCCTTCACGAGTTTGA		EETEEKWLSSLENTRWLEY VRAFLKHSAELVYMLESKH LSVVLQEEEGRDLSCCVAS LVQVMLDPYFRTITGFQSLI QKEWVMAGYQFLDRCNHL KRSEKESPLFLLFLDATWQ LLEQYPAAFEFSETYLAVLY DSTRISLFGTFLFNSPHQRV KQSTVSRIKSCTKQDYFPS RV*
Shigella ipaH9.8	6	prey67339	157	GGAAGAAGAAGAGACAGAGCTGCCCACTGTGCCCCCAGTGCCCACAGAACC CAGTCCCATGCCAGACCCTTGCAGTAGTGAACTGGATGCCATGATGCTGGG GCCCCGTGGGAAGACCTATGCTTTCAAGGGGGACTATGTGTGGACTGTATC AGATTCAGGACCGGGCCCCTTGTTCCGAGTGTCTGCCCTTTGGGAGGGGCT CCCCGGAAACCTGGATGCTGCTGTCTACTCGCCTCGAACACAATGGATTCAC TTCTTTAAGGGAGACAAGGTGTGGCGCTACATTAATTTCAAGATGTCTCCTG GCTTCCCCAAGAAGCTGAATAGGGTAGAACCTAACCTGGATGCAGCTCTCTA TTGGCCTCTCAACCAAAAGGTGTTCCTCTTTAAGGGCTCCGGGTACTGGCAG TGGGACGAGCTAGCCCGAACTGACTTCAGCAGCTACCCCAAACCAATCAAG GGTTTGTTTACGGGAGTGCCAAACCAGCCC	358	EEEETELPTVPPVPTEPSP MPDPCSSELDAMMLGPRG KTYAFKGDYVWTVSDSGP GPLFRVSALWEGLPGNLDA AVYSPRTQWIHFFKGDKV WRYINFKMSPGFPKKLNRV EPNLDAALYWPLNQKVFLF KGSGYWQWDELARTDFSS YPKPIKGLFTGVPNQP
Shigella ipaH9.8	6	prey67337	158	GGCTCCCTTGACCTTCCAAGAGGTGCAGGCTGGTGCGGCTGACATCCGCCT CTCCTTCCATGGCCGCCAAAGCTCGTACTGTTCCAATACTTTTGATGGGCCT GGGAGAGTCCTGGCCCATGCCGACATCCCAGAGCTGGGCAGTGTGCACTTC GACGAAGACGAGTTCTGGACTGAGGGGACCTACCGTGGGGTGAACCTGCG CATCATTGCAGCCCATGAAGTGGGCCATGCTCTGGGGCTTGGGCACTCCCG ATATTCCCAGGCCCTCATGGCCCCAGTCTACGAGGGCTACCGGCCCCACTT TAAGCTGCACCCAGATGATGTGGCAGGGATCCAGGCTCTCTATGGCAAGAA GAGTCCAGTGATAAGGGATGAGGAAGAAGAAGAGACAGAGCTGCCCACTGT GCCCCCAGTGCCCACAGAACCCAGTCCCATGCCAGACCCTTGCAGTAGTGA ACTGGATGCCATGATGCTGGGTGAGGCCCCTCCCCTCCAGGCTGTTGGCAG GCGGTGGGGGCAGCCTGCTGATCCTGAGGCCTGGACAAATGGGAGTGACA TGGGACTTCAGCATGAGCAATGGAGGGCCCCGTGGGAAGACCTATGCTTTC AAGGGGGACTATGTGTGGACTGTATCAGATTCAGGACCGGGCCCCTTGTTC CGAGTGTCTGCCCTTTGGGAGGGGCTCCCCGGAAACCTGGATGCTGCTGTC TACTCGCCTCGAACACAATGGATTCACTTCTTTAA	359	APLTFQEVQAGAADIRLSF HGRQSSYCSNTFDGPGRV LAHADIPELGSVHFDEDEF WTEGTYRGVNLRIIAAHEV GHALGLGHSRYSQALMAP VYEGYRPHFKLHPDDVAGI QALYGKKSPVIRDEEEEET ELPTVPPVPTEPSPMPDPC SSELDAMMLGEAPPLQAV GRRWGQPADPEAWTNGS DMGLQHEQWRAPWEDLC FQGGLCVDCIRFRTGPLVP SVCPLGGAPRKPGCCCLLA SNTMDSLL*
Shigella ipaH9.8	6	prey67746	159	ATGGAGAAATATTCAATAATGAAGAGCATGAATATGCATCGAAAAAAAGGAAA AAGGACCATTTTAGAAATGACACAAATACTCAAAAGGCATGGCTATTGCACCT TGGGAGAAGCCTTTAATCGGTTAGACTTCTCAAGTGCAATTCAAGATATCCG	360	MEKYSIMKSMNMHRKKGK RTILEMTQILKRHGYCTLGE AFNRLDFSSAIQDIRTFNYV

				AACGTTCAATTATGTGGTCAAACTGTTGCAGCTAATTGCAAAATCCCAGTTAA CTTCATTGAGTGGCGTGGCACAGAAGAATTACTTCAACATTTTGGATAAAATC GTTCAAAAGGTTCTTGATGACCACCACAATCCTCGCTTAATCAAAGATCTTCT GCAAGACCTAAGCTCTACCCTCTGCATTCTTATTAGAGGAGTAGGGAAGTCT GTATTAGTGGGAAACATCAATATTTGGATTTGCCGATTAGAAACTATTCTCGC CTGGCAACAACAGCTACAGGATCTTCAGATGACTAAGCAAGTGAACAATGGC CTCACCCTCAGTGACCTTCCTCTGCACATGCTGAACAACATCCTATACCGGT TCTCAGACGGATGGGACATCATCACCTTAGGCCAGGTGACCCCCACGTTGT ATATGCTTAGTGAAGACAGACAGCTGTGGAAGAAGCTTTGTCAGTACCATTTT GCTGAAAAGCAGTTTTGTAGACATTTGATCCTTTCAGAAAAAGGTCATATTGA ATGGAAGTTGATGTACTTTGCACTTCAGAAACATTACCCAGCGAAGGAGCAG TACGGAGACACACTGCATTTCTGTCGGCACTGCAGCATTCTCTTTTGGAAGG ACTCAGGACACCCCTGCACGGCGGCCGACCCTGACAGCTGCTTCACGCCTG TGTCTCCGCAGCACTTCATCGACCTCTTCAAGTTTTAA		VKLLQLIAKSQLTSLSGVAQ KNYFNILDKIVQKVLDDHHN PRLIKDLLQDLSSTLCILIRG VGKSVLVGNINIWICRLETIL AWQQQLQDLQMTKQVNN GLTLSDLPLHMLNNILYRFS DGWDIITLGQVTPTLYMLSE DRQLWKKLCQYHFAEKQF CRHLILSEKGHIEWKLMYFA LQKHYPAKEQYGDTLHFCR HCSILFWKDSGHPCTAADP DSCFTPVSPQHFIDLFKF*
Shigella ipaH9.8	6	prey54430	160	GCTGTCCAAAACCAACAGGACCCTCTTTATATTTGGTGTCACAAAGTATATTG CAGGACCCTATGAATGTGAAATACGGAACCCAGTGAGTGCCAGCCGCAGTG ACCCAGTCACCCTGAATCTCCTCCATGGTCCAGACCTCCCCAGCATTTACCC TTCATTCACCTATTACCGTTCAGGAGAAAACCTCTACTTGTCCTGCTTCGCCG AGTCTAACCCACGGGCACAATATTCTTGGACAATTAATGGGAAGTTTCAGCT ATCAGGACAAAAGCTCTCTATCCCCCAAATAACTACAAAGCATAGTGGGCTC TATGCTTGCTCTGTTCGTAACTCAGCCACTGGCAAGGAAAGCTCCAAATCCA TCACAGTCAAAGTCTCTGACTGGATATTACCCTGA	361	LSKTNRTLFIFGVTKYIAGP YECEIRNPVSASRSDPVTL NLLHGPDLPSIYPSFTYYRS GENLYLSCFAESNPRAQYS WTINGKFQLSGQKLSIPQIT TKHSGLYACSVRNSATGKE SSKSITVKVSDWILP*
Shigella ipaH9.8	6	prey67749	161	AAGAAATTTAAGTATATTGAGAATTTGGAAAAATGTGTTAAACTTGAAGTACTG AATCTCAGCTATAATCTAATAGGGAAGATTGAAAAGTTGGACAAGCTGTTAAA ATTACGTGAACTCAACTTATCATATAACAAAATCAGCAAAATTGAAGGCATAG AAAATATGTGTAATCTGCAAAAGCTTAACCTTGCAGGAAATGAAATTGAGCAT ATTCCAGTATGGTTAGGGAAGAAGTTAAAATCTTTGCGAGTCCTCA	362	KKFKYIENLEKCVKLEVLNL SYNLIGKIEKLDKLLKLRELN LSYNKISKIEGIENMCNLQK LNLAGNEIEHIPVWLGKKLK SLRVL
Shigella ipaH9.8	6	prey67751	162	GGAGGCAGAGCAAGACACTGTCTCTTAAAAAAAGGAAAGAAAACTCGACAAG AATCCTAGTGGGAGAGGCAGGACCATCCTGTGATGGGTCAATAATGACCCA GTCATGGAGCACAGTGATGCAGGAAAAGGGGTTGTGAGTGCCAGGAAGGCC AGTTTCGAACAACGTGGCAAGGGAAGCAGGCCTGTGAGAACGGGCCCTCTG AGCCGGAACTGAGGGAGGAGTTGAGCCTGGGGCTCTCTGGGGGTGCAGTG TTCCANGTGGGGGA	363	GGRARHCLLKKGKKTRQE S*WERQDHPVMGQ**PSHG AQ*CRKRGCECQEGQFRT TWQGKQACENGPSEPELR EELSLGLSGGAVFXVG
Shigella ipaH9.8	6	prey8739	163	GGCTGAGCCACCCGTCCCCTCACCTCTGCCACTGGCCTCATCCCCTGAATC AGCCCGACCCAAGCCCCGTGCCCGGCCCCCTGAAGAAGGTGAAGATACCC GTCCTCCTCGCCTCAAGAAATGGAAAGGAGTGCGCTGGAAGCGGCTTCGGC TGCTGCTGACCATCCAGAAGGGCAGTGGACGGCAGGAGGATGAGCGGGAA GTGGCAGAGTTTATGGAGCAGCTTGGCACAGCCTTGCGACCTGACAAGGTA CCGCGAGACATGCGTCGCTGCTGTTTCTGTCATGAGGAGGGTGACGGGGCC	364	AEPPVPSPLPLASSPESAR PKPRARPPEEGEDTRPPRL KKWKGVRWKRLRLLLTIQK GSGRQEDEREVAEFMEQL GTALRPDKVPRDMRRCCF CHEEGDGATDGPARLLNL

				ACTGATGGGCCTGCCCGTCTGCTGAACCTGGACCTGGACCTGTGGGTGCAC CTCAACTGTGCCCTTTGGTCCACGGAGGTGTATGAGACCCAGGGCGGAGCA CTGATGAATGTGGAGGTTGCCCTGCACCGAGGACTGCTAACCAAGTGCTCC CTGTGCCAGCGAACTGGTGCCACCAGCAGCTGCAATCGCATGCGTTGCCCC AATGTCTACCATTTTGGTTGTGCCATCCGCGCCAAGTGCATGTTCTTCAAGG ACAAGACCATGCTGTGTCCAATGCATAAGATCAAGGGGCCCTGTGAGCAAG AGCTGAGCTCTTTTGCTGTCTTCCGGCGGG		DLDLWVHLNCALWSTEVY ETQGGALMNVEVALHRGLL TKCSLCQRTGATSSCNRM RCPNVYHFGCAIRAKCMFF KDKTMLCPMHKIKGPCEQE LSSFAVFRR
Shigella ipaH9.8	6	prey18232	164	CAGTGATATGATGCTGAACATCATCAACAGCTCTATTACTACCAAAGCCATCA GCCGGTGGTCATCTTTGGCTTGCAACATTGCCCTGGATGCTGTCAAGATGGT ACAGTTTGAGGAGAATGGTCGGAAAGAGATTGACATAAAAAAATATGCAAGA GTGGAAAAGATACCTGGAGGCATCATTGAAGACTCCTGTGTCTTGCGTGGAG TCATGATTAACAAGGATGTGACCCATCCACGTATGCGGCGCTATATCAAGAA CCCTCGCATTGTGCTGCTGGATTCTTCTCTGGAATACAAGAAAGGAGGAAGC CAGACTGACATTGAGATTACACGAGAGGAGGACTTCACCCGAATTCTCCAGA TGGAGGAAGAGTACATCCAGCAGCTCTGTGAGGACATTATCCAACTGAAGCC CGATGTGGTCATCACTGAAAAGGGCATCTCAGATTTAGCTCAGCACTACCTT ATGCGGGCCAATATCACAGCCATCCGCAGAGTCCGGAAGACAGACAATAAT CGCATTGCTAGAGCCTGTGGGGCCCGGATAGTCAGCCGACCAGAGGAACTG AGAGAAGATGATGTTGGAACAGGAGCAGGCCTGTTGGAAATCAAGAAAATTG GAGATGAATACTTTACTTTCATCACTGACTGCAAAGACCCCAAGGC	365	SDMMLNIINSSITTKAISRW SSLACNIALDAVKMVQFEE NGRKEIDIKKYARVEKIPGG IIEDSCVLRGVMINKDVTHP RMRRYIKNPRIVLLDSSLEY KKGGSQTDIEITREEDFTRI LQMEEEYIQQLCEDIIQLKP DVVITEKGISDLAQHYLMRA NITAIRRVRKTDNNRIARAC GARIVSRPEELREDDVGTG AGLLEIKKIGDEYFTFITDCK DPK
Shigella ipaH9.8	6	prey66739	165	ATGGACGACAAGGAGTTAATTGAATACTTTAAGTCTCAGATGAAAGAAGATCC TGACATGGCCTCAGCAGTGGCTGCCATCCGGACGTTGCTGGAGTTCTTGAA GAGAGATAAAGGGGAGACAATCCAGGGTCTGAGGGCGAATCTCACCAGTGC CATAGAAACCCTGTGTGGTGTGGACTCCTCTGTGGCAGTGTCCTCTGGCGG GGAGCTCTTCCTCCGCTTCATCAGTCTTGCCTCCCTGGAATACTCCGATTAC TCCAAATGTAAAAAGATCATGATTGAGCGGGGAGAACTTTTTCTCAGGAGAA TATCACTGTCAAGAAACAAAATTGCAGATCTGTGCCATACTTTCATCAAAGAT GGAGCGACAATATTGACTCACGCCTACTCCAGAGTGGTCCTGAGAGTCCTG GAAGCAGCCGTGGCGGCCAAGAAGCGATTTAGTGTATACGTCACAGAGTCA CAGCCTGATTTGTCAGGTAAGAAAATGGCCAAAGCCCTCTGCCACCTCAACG TCCCTGTCACTGTGGTGCTAGATGCTGCTGTCGGCTACATCATGGAGAAAGC AGATCTTGTCATAGTTGGTGCTGAAGGAGTTGTTGAAAACGGAGGAATTATT AACAAGATTGGAACCAACCAGATGGCTGTGTGTGCCAAAGCACAGAACAAAC CTTTCTATGTGGTTGCAGAAAGTTTCAAGTTTGTCCGGCTCTTTCCACTAAAC CAGCAAGACGTCCCAGATAAGTTTAAGTATAAGGCAGACACTCTCAAGGTCG CGCAGACTGGACAAGACCTCAAAGAGGAGCATCCGTGGGTCGACTACACTG CCCCTTCCTTAATCACTCTGCTGTTTACAGACCTGGG	366	MDDKELIEYFKSQMKEDPD MASAVAAIRTLLEFLKRDKG ETIQGLRANLTSAIETLCGV DSSVAVSSGGELFLRFISLA SLEYSDYSKCKKIMIERGEL FLRRISLSRNKIADLCHTFIK DGATILTHAYSRVVLRVLEA AVAAKKRFSVYVTESQPDL SGKKMAKALCHLNVPVTVV LDAAVGYIMEKADLVIVGAE GVVENGGIINKIGTNQMAV CAKAQNKPFYVVAESFKFV RLFPLNQQDVPDKFKYKAD TLKVAQTGQDLKEEHPWV DYTAPSLITLLFTDL
Shigella ipaH9.8	6	prey67769	166	GCAGCCTTCAAGGTCGCCACGCCGTATTCCCTGTATGTCTGTCCCGAGGGG CAGAACGTCACCCTCACCTGCAGGCTCTTGGGCCCTGTGGACAAAGGGCAC	367	AAFKVATPYSLYVCPEGQN VTLTCRLLGPVDKGHDVTF

				GATGTGACCTTCTACAAGACGTGGTACCGCAGCTCGAGGGGCGAGGTGCAG ACCTGCTCAGAGCGCCGGCCCATCCGCAACCTCACGTTCCAGGACCTTCAC CTGCACCATGGAGGCCACCAGGCTGCCAACACCAGCCACGACCTGGCTCAG CGCCACGGGCTGGAGTCGGCCTCCGACCACCATGGCAACTTCTCCATCACC ATGCGCAACCTGACCCTGCTGGATAGCGGCCTCTACTGCTGCCTGGTGGTG GAGATCAGGCACCACCACTCGGAGCACAGGGTCCATGGTGCCATGGAGCTG CAGGTGCAGACAGGCAAAGATGCACCATCCAACTGTGTGGTGTACCCATCC TCCTCCCAGGATAGTGAAAACATCACGGCTGCAGCCCTGGCTACGGGTGCC TGCATCGTAGGAATCCTCTGCCTCCCCCTCATCCTGCTCCTGGTCTACAAGC AAAGGCAGGCAGCCTCCAA		YKTWYRSSRGEVQTCSER RPIRNLTFQDLHLHHGGHQ AANTSHDLAQRHGLESASD HHGNFSITMRNLTLLDSGL YCCLVVEIRHHHSEHRVHG AMELQVQTGKDAPSNCVV YPSSSQDSENITAAALATG ACIVGILCLPLILLLVYKQRQ AAS
Shigella ipaH9.8	6	prey13613	167	CCTTGGAGCTGGTCCTTTCAGCCATATGATAAAATTAAAAACTAAGCCTCTCC CTCCTGATCCACCTCGTCTGGAATGTGTTGCCTTTAGCCACCAGAACCTTAA GCTGAAATGGGGAGAAGGAACTCCAAAGACATTGTCAACCGATTCTATTCAG TACCACCTTCAGATGGAGGATAAGAATGGACGGTTTGTATCCCTATACAGAG GACCATGTCATACATACAAAGTACAAAGACTTAATGAGTCAACATCCTATAAA TTCTGTATTCAAGCTTGTAATGAAGCTGGGGAAGGTCCCCTCTCCCAAGAAT ATATTTTCACTACTCCAAAATCTGTCCCAGCTGCCTTGAAAGCCCCCAAAATA GAGAAAGTAAATGATCACATTTGTGAAATTACATGGGAGTGTTTACAGCCAAT GAAAGGTGATCCAGTTATTTACAGTCTTCAAGTTATGTTGGGAAAAGATTCAG AATTCAAACAGATTTACAAGGGTCCCGACTCTTCCTTCCGGTATTCCAGCCTT CAGCTGAACTGTGAATATCGCTTCCGTGTATGTGCCATTCGCC	368	LGAGPFSHMIKLKTKPLPP DPPRLECVAFSHQNLKLKW GEGTPKTLSTDSIQYHLQM EDKNGRFVSLYRGPCHTY KVQRLNESTSYKFCIQACN EAGEGPLSQEYIFTTPKSV PAALKAPKIEKVNDHICEIT WECLQPMKGDPVIYSLQV MLGKDSEFKQIYKGPDSSF RYSSLQLNCEYRFRVCAIR
Shigella ipaH9.8	6	prey3337	168	GGCTCGGCTGAAGGACCTGGAGGCTCTGCTGAACTCCAAGGAGGCCGCAC TGAGCACTGCTCTCAGTGAGAAGCGCACGCTGGAGGGCGAGCTGCATGATC TGCGGGGCCAGGTGGCCAAGCTTGAGGCAGCCCTAGGTGAGGCCAAGAAG CAACTTCAGGATGAGATGCTGCGGCGGGTGGATGCTGAGAACAGGCTGCAG ACCATGAAGGAGGAACTGGACTTCCAGAAGAACATCTACAGTGAGGAGCTG CGTGAGACCAAGCGCCGTCATGAGACCCGACTGGTGGAGATTGACAATGGG AAGCAGCGTGAGTTTGAGAGCCGGCTGGCGGATGCGCTGCAGGAACTGCG GGCCCAGCATGAGGACCAGGTGGAGCAGTATAAGAAGGAGCTGGAGAAGA CTTATTCTGCCAAGCTGGACAATGCCAGGCAGTCTGCTGAGAGGAACAGCA ACCTGGTGGGGGCTGCCCACGAGGAGCTGCAGCAGTCGCGCATCCGCATC GACAGCCTCTCTGCCCAGCTCAGCCAGCTCCAGAAGCAGCTGGCAGCCAAG GAGGCGAAGCTTCGAGACCTGGAGGACTCACTGGCCCGTGAGCGGGACAC CAGCCGGCGGCTGCTGGCGGAAAAGGAGCGGGAGATGGCCGAGATGCGG GCAAGGATGCAGCAGCAGCTGGACGAGTACCAGGAGCTTCTGGACATCAAG CTGGCCCTGGACATGGAGATCCACGCCTACCGCAAGCTCTTGGAGGGCGAG GAGGAGAGGCTACGCCTGTCCCCCAGCCCTACCTCGCAGCGCAGCCGTGG CCGTGCTTCCTCTCACTCATCCCAGACACAGGGTGGGGGCAGCGTCACCAA AAAGCGCAAACTGGAGTCCACTGAGAGCCGCAGCAGCTTCTCACAGCACGC	369	ARLKDLEALLNSKEAALSTA LSEKRTLEGELHDLRGQVA KLEAALGEAKKQLQDEMLR RVDAENRLQTMKEELDFQ KNIYSEELRETKRRHETRLV EIDNGKQREFESRLADALQ ELRAQHEDQVEQYKKELEK TYSAKLDNARQSAERNSNL VGAAHEELQQSRIRIDSLSA QLSQLQKQLAAKEAKLRDL EDSLARERDTSRRLLAEKE REMAEMRARMQQQLDEY QELLDIKLALDMEIHAYRKL LEGEEERLRLSPSPTSQRS RGRASSHSSQTQGGGSVT KKRKLESTESRSSFSQHAR TSGRVAVEEVDEEGKFVRL RNKSNEDQSMGNWQIKRQ

				ACGCACTAGCGGGCGCGTGGCCGTGGAGGAGGTGGATGAGGAGGGCAAGT TTGTCCGGCTGCGCAACAAGTCCAATGAGGACCAGTCCATGGGCAATTGGC AGATCAAGCGCCAGAATGGAGATGATCCCTTGCTGACTTACCGGTTCCCACC AAAGTTCACCCTGAAGGCTGGGCAGGTGGTGACGATCTGGGCTGCAGGAGC TGGGGCCACCCACAGCCCCCCTACCGACCTGGTGTGGAAGGCACAGAACA CCTGGGGCTGCGGGAACAGCCTGCGTACGGCTCTCATCAACTCCACTGGGG AAGAAGTGGCCATGCGCAAGCTGGTGCGCTCAGTGACTGTGGTTGAGGACG ACGAGGATGAGGATGGAGATGACCTGCTCCATCACCACCATGTGAGTGGTA GCCGCCGCTGA		NGDDPLLTYRFPPKFTLKA GQVVTIWAAGAGATHSPPT DLVWKAQNTWGCGNSLRT ALINSTGEEVAMRKLVRSV TVVEDDEDEDGDDLLHHH HVSGSRR*
Shigella ipaH9.8	6	prey67774	169	CCCACCTCCTGGCCGGTCCTTGAAGTTTTCTGGGGTCTATGGCCAATAATC TGCCAGAGACCAAGTACCAATGAGCTTCCCCTATTTGACTTTCCTGTCAAAG AGGTTTTTGAACTGCTCGGGGTGGAGAATGTGTTTCAGCTTTTTACTTGTGC CCTTCTGGAGTTTCAAATCCTGCTCTACTCACAGCATTACCAGAGACTGATGA CTGTGGCGGAGACGATTACAGCTCTCATGTTTCCTTTCCAGTGGCAGCATGT CTATGTCCCTATTCTCCCAGCTTCTCTCCTGCATTTCTTAGATGCTCCTGTTC CATACCTGATGGGTTTGCATTCCAATGGCCTGGATGACCGGTCAAAGCTGGA GCTGCCTCAAGAGGCTAACCTCTGCTTTGTGGACATTGACAACCACTTCATT GAGTTGCCAGAGGACTTGCCACAGTTCCCCAACAAATTGGAGTTTGTCCAGG AAGTCTCTGAGATTCTCATGGCATTTGGAATTCCCCCTGAAGGGAATCTTCAT TGCAGTGAGAGTGCCTCCAAGCTGAAGAGGCTGCGGGCCTCTGAGCTTGTC TCGGACAAGAGGAATGGGAACATTGCTGGCTCCCCTTTGCATTCCTACGAGC TTCTTAAGGAGAATGAAACTATTGCCCGGCTGCAAGCCTTGGTCAAGAGAAC TGGGGTGAGCCTGGAAAAGTTGGAAGTGCGTGAAGACCCCAGCAGCAATAA GGATCTCAAAGTTCAGTGTGATGAAGAAGAACTCAGGATTTACCAGCTAAAC ATTCAGATCCGGGAAGTTTTTGCAAATCGTTTCACTCAGATGTTTGCAGATTA TGAGGTGTTTGTCATCCAACCCAGCCAGGATAAGGAATCCTGGTTTACCAAC AGGGAGCAAATGCAAAACTTTGATAAAGCATCTTTTCTGTCAGATCAGCCTGA GCCCTACCTGCCCTTCCTCTCAAGATTCCTGGAGACCCAGATGTTTGCATCT TTCATTGACAACAAAATAATGTGTCATGATGATGATGATAAAGACCCTGTACT CCGGGTATTTGATTCCCGAGTTGACAAGATCAGGCTGTTGAATGTTCGGACA CCTACTCTCCGTACATCCATGTACCAGAAGTGTACCACTGTGGATGAAGCAG AGAAAGCAATTGAGCTGCGTCTGGCAAAAATTGACCATACTGCAATTCACCC ACATTTACTTGACATGAAGATTGGACAAGGGAAATATGAGCCGGGCTTCTTC CCTAAGCTGCAGTCTGATGTACTTTCCACTGGGCCAGCCAGCAACAAGTGGA CGAAAAGGAATGCCCCTGCCCAGTGGAGGCGGAAAGATCGGCAGAAGCAG CACACAGAACACCTGCGTTTAGATAATGACCAGAGGGAGAAGTACATCCAGG AAGCCAGGACTATGGGCAGCACTATCCGCCAG	370	PPPGRSLKFSGVYGPIICQ RPSTNELPLFDFPVKEVFEL LGVENVFQLFTCALLEFQIL LYSQHYQRLMTVAETITAL MFPFQWQHVYVPILPASLL HFLDAPVPYLMGLHSNGLD DRSKLELPQEANLCFVDID NHFIELPEDLPQFPNKLEFV QEVSEILMAFGIPPEGNLHC SESASKLKRLRASELVSDK RNGNIAGSPLHSYELLKEN ETIARLQALVKRTGVSLEKL EVREDPSSNKDLKVQCDE EELRIYQLNIQIREVFANRFT QMFADYEVFVIQPSQDKES WFTNREQMQNFDKASFLS DQPEPYLPFLSRFLETQMF ASFIDNKIMCHDDDDKDPV LRVFDSRVDKIRLLNVRTPT LRTSMYQKCTTVDEAEKAI ELRLAKIDHTAIHPHLLDMKI GQGKYEPGFFPKLQSDVLS TGPASNKWTKRNAPAQWR RKDRQKQHTEHLRLDNDQ REKYIQEARTMGSTIRQ
Shigella ipaH9.8	6	prey67776	170	TGGGATTCAACTAAAATTAGCAAAGCATACTACAAAGCAATGGTAATTAGCAC TTGGTGTTACTGGCTAAGAAAGAGGCACTTGATGCATGAAACAGACTCACGT	371	WDSTKISKAYYKAMVISTW CYWLRKRHLMHETDSRVP

				GTACCTGTGAGTTTATTATTTGATACAAGTGCCATTTCAAATCAGCAAGGGAA TTGGGCCAATTTGTTATCCATTTTGAAAACATATNAAGTTTGATNCCTACNTG ACAACGTNCTNTNAAATGGGTGGGAGGTGGATNGGNCATGTGGGTGTNANG CGGTGNNGGCGG		VSLLFDTSAISNQQGNWAN LLSILKTYXV*XLXDNVLXN GWEVDXXCGCXAVXA
Shigella ipaH9.8	6	prey4758	171	GCTCAGTGCTCTGGAGTCCACGGTGCCTCCCAGCCAGCCTCCACCTGTGGG CACCTCAGCCATCCACATGAGCCTGCTTGAGATGAGGCGGAGCGTGGCGGA ACTCAGGCTCCAGCTCCAGCAGATGCGGCAGCTCCAGCTGCAGAACCAGGA GTTGCTGAGGGCAATGATGAAGAAGGCCGAGCTGGAAATCAGTGGCAAAGT GATGGAAACAATGAAGAGACTGGAGGATCCCGTGCAGCGACAGCGCGTCCT AGTGGAGCAAGAGAGACAAAAATATCTTCATGAGGAAGAGAAGATCGTCAAG AAGTTGTGCGAGTTGGAAGACTTTGTTGAAGACTTGAAGAAGGACTCCACGG CAGCCAGCCGATTGGTTACTCTGAAAGACGTGGAAGACGGGGCTTTCCTCC TGCGTCAAGTGGGAGAGGCTGTAGCTACCCTGAAAGGAGAATTTCCAACCTT ACAAAACAAGATGCGAGCCATCCTGCGCATAGAAGTGGAGGCCGTGCGGTT TCTGAAGGAGGAGCCACACAAGCTGGACAGTCTCCTGAAGCGTGTGCGCAG CATGACAGACGTCCTGACCATGCTGCGGAGACATGTCACTGATGGGCTCCT GAAAGGCACGGACGCAGCCCAAGCCGCACAGTACATGGCTATGGAAAAGGC CACAGCCGCAGAAGTCCTGAAGAGTCAGGAGGAGGCAGCCCACACCTCCG GCCAGCCCTTCCACAGCACAGGTGCCCCTGGCGATGCGAAGTCGGAAGTG GTGCCTTTGTCCGGCATGATGGTTCGCCACGCGCAGAGCTCCCCTGTGGTC ATCCAGCCCTCCCAGCACTCCGTGGCCCTGCTGAACCCTGCTCAGAACTTG CCTCACGTGGCCAGCTCCCCAGCCGTC	372	LSALESTVPPSQPPPVGTS AIHMSLLEMRRSVAELRLQ LQQMRQLQLQNQELLRAM MKKAELEISGKVMETMKRL EDPVQRQRVLVEQERQKY LHEEEKIVKKLCELEDFVED LKKDSTAASRLVTLKDVED GAFLLRQVGEAVATLKGEF PTLQNKMRAILRIEVEAVRF LKEEPHKLDSLLKRVRSMT DVLTMLRRHVTDGLLKGTD AAQAAQYMAMEKATAAEV LKSQEEAAHTSGQPFHSTG APGDAKSEVVPLSGMMVR HAQSSPVVIQPSQHSVALL NPAQNLPHVASSPAV
Shigella ipaH9.8	6	prey67781	172	CCTGAGGACCAACCACATTGGGTGGGTGCAGGAGTTCCTCAATGAAGAGAA CCGTGGCCTGGATGTGCTGCTCGAGTACCTGGCCTTTGCCCAGTGCTCTGT CACGTATGACATGGAGAGCACAGACAACGGGGCTTCCAACTCAGAGAAAAA CAAGCCCCTGGAGCAGTCTGTGGAAGACCTCAGCAAGGGTCCACCCTCCTC CGTGCCCAAAAGCCGCCACCTGACCATCAAGCTGACCCCAGCCCACAGCAG GAAGGCCCTGCGG	373	LRTNHIGWVQEFLNEENRG LDVLLEYLAFAQCSVTYDM ESTDNGASNSEKNKPLEQS VEDLSKGPPSSVPKSRHLTI KLTPAHSRKALR
Shigella ipaH9.8	6	prey2109	173	GACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATTGGCTCTTC TGAAGATGGTGATGCATGCCAGATCGGGAGGCAATTTGGAAGTGATGGGTC TGATGCTAGGAAAGGTGGATGGTGAAACCATGATCATTATGGACAGTTTTGC TTTGCCTGTGGAGGGCACTGAAACCCGAGTAAATGCTCAGGCTGCTGCATAT GAATACATGGCTGCATACATAGAAAATGCAAAACAGGTTGGCCGCCTTGAAA ATGCAATCGGGTGGTATCATAGCCACCCTGGCTATGGCTGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGCAGTTCCAGGAACCATTTGTAG CAGTGGTGATTGATCCAACAAGAACAATATCCGCAGGGAAAGTGAATCTTGG CGCCTTTAGGACATACCCAAAGGGCTACAAACCTCCTGATGAAGGACCTTCT GAGTACCAGACTATTCCACTTAATAAAATAGAAGATTTTGGTGTACACTGCAA ACAATATTATGCCTTAGAAGTCTCATATTTCAAATCCTCTTTGGATCGCAAATT	374	TKDHHYFKYCKISALALLKM VMHARSGGNLEVMGLMLG KVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIE NAKQVGRLENAIGWYHSH PGYGCWLSGIDVSTQMLN QQFQEPFVAVVIDPTRTISA GKVNLGAFRTYPKGYKPPD EGPSEYQTIPLNKIEDFGVH CKQYYALEVSYFKSSLDRK LLELLWNKYWVNTLSSSSL

				GCTTGAGCTGTTGTGGAATAAATACTGGGTGAATACGTTGAGTTCTTCTAGCT TGCTTACTAATGC		LTN
Shigella ipaH9.8	6	prey4060	174	GGCAAATCACTTTTTCTTCAAAAAGGATTATAGTAAAGTCCAGCATCTGGCCC TCCATGCATTCCATAATACAGAAGTGGAAGCTATGCAAGCAGAGAGCTGCTA TCAGCTAGCTAGATCATTCCATGTTCAGGAAGATTATGACCAAGCTTTTCAGT ACTATTATCAAGCCACACAGTTTGCCTCATCCTCTTTTGTGCTCCCATTTTTTG GTTTGGGACAAATGTATATTTATCGAGGTGACAAAGAAAATGCATCTCAGTGC TTTGAGAAGGTTTTGAAAGCTTATCCTAATAATTACGAAACTATGAAAATTCTC GGCTCTCTCTATGCTGCCTCAGAAGATCAAGAAAAACGAGATATTGCCAAGG GCCATTTGAAGAAGGTCACAGAACAGTATCCCGATGATGTTGAAGCTTGGAT TGAATTGGCACAAATCTTAGAACAGACTGATATACAGGGTGCCCTTTCAGCC TATGGAACAGCAACACGAATCCTTCAGGAGAAAGTGCAGGCCGATGTTCCTC CAGAGATTCTCAATAATGTGGGTGCCCTCCATTTTAGACTTGGAAACCTAGG GGAGGCTAAGAAATATTTTTTGGCGTCATTGGACCGTGCAAAAGCAGAAGCG GAACACGATGAGCATTACTATAACGCCATTTCCGTTACCACGTCATATAATCT CGCCAGGCTATATGAGGCGATGTGTGAATTCCATGAAGCAGAAAAACTGTAT AAAAACATCTTACGCGAACATCCTAATTATGTTGACTGCTATTTGCGCCTAGG AGCCATGGCTAGAGATAAGGGAAACTTTTATGAGGCTTCAGATTGGTTTAAG GAAGCTCTTCAGATTAATCAGGATCATCCAGATGCTTGGTCTTTGATTGGCAA TCTTCATTTGGCAAAACAAGAATGGGGTCCTGGGCAGAAGAAGTTTGAGAGG ATATTAAAACAGCCATCCACACAGAGTGATACCTATTCTATGCTAGCCCTTGG CAACGTGTGGCTCCAAACTTTACATCAGCCCACCCGAGATCGAGAAAAGGAA AAGCGTCATCAAGATCGTGCTCTGGCCATCTACAAACAAGTACTCAGAAATG ATGCAAAGAATCTGTATGCTGCCAATGGCATAGGAGCTGTTTTGGCCCACAA AGGATATTTTCGTGAAGCTCGTGATGTATTTGCCCAAGTAAGAGAAGCAACA GCAGATATTAGTGATGTGTGGCTGAACTTAGCACACATCTATGTGGAGCAAA AGCAGTACATCAGCGCCGTTCAGATGTATGAAAACTGCCTCCGAAAGTTCTA TAAGCA	375	ANHFFFKKDYSKVQHLALH AFHNTEVEAMQAESCYQL ARSFHVQEDYDQAFQYYY QATQFASSSFVLPFFGLGQ MYIYRGDKENASQCFEKVL KAYPNNYETMKILGSLYAA SEDQEKRDIAKGHLKKVTE QYPDDVEAWIELAQILEQT DIQGALSAYGTATRILQEKV QADVPPEILNNVGALHFRL GNLGEAKKYFLASLDRAKA EAEHDEHYYNAISVTTSYN LARLYEAMCEFHEAEKLYK NILREHPNYVDCYLRLGAM ARDKGNFYEASDWFKEAL QINQDHPDAWSLIGNLHLA KQEWGPGQKKFERILKQP STQSDTYSMLALGNVWLQ TLHQPTRDREKEKRHQDR ALAIYKQVLRNDAKNLYAA NGIGAVLAHKGYFREARDV FAQVREATADISDVWLNLA HIYVEQKQYISAVQMYENC LRKFYK
Shigella ipaH9.8	6	prey49284	175	CTCATCAACTACGTGGGCTTCATCAACTACCTCTTCTATGGGGGCACGGTTG CTGGACAGATAGTCCTTCGCTGGAAGAAGCCTGATATCCCCCGCCCCATCAA GATCAACCTGCTGTTCCCCATCATCTACTTGCTGTTCTGGGCCTTCCTGCTG GTCTTCAGCCTGTGGTCAGAGCCGGTGGTGTGTGGCATTGGCCTGGCCATC ATGCTGACAGGAGTGCCTGTCTATTTCCTGGGTGTTTACTGGCAACACAAGC CCAAGTGTTTCAGTGACTTCATTGAGCTGCTAACCCTGGTGAGCCAGAAGAT GTGTGTGGTCGTGTACCCCGAGGTGGAGCGGGGCTCAGGGACAGAGGAGG CTAATGAGGACATGGAGGAGCAGCAGCAGCCCATGTACCAACCCACTCCCA CGAAGGACAAGGACGTGGCGGGGCAGCCCCAGCCCTGA	376	LINYVGFINYLFYGGTVAGQ IVLRWKKPDIPRPIKINLLFPI IYLLFWAFLLVFSLWSEPVV CGIGLAIMLTGVPVYFLGVY WQHKPKCFSDFIELLTLVS QKMCVVVYPEVERGSGTE EANEDMEEQQQPMYQPTP TKDKDVAGQPQP*
Shigella ipaH9.8	6	prey67686	176	CTGGGATTACAGGCATGAGCCACAGCACCTGGCTGAGTTTTCTCAGCACCAT TTATTGAATAGACTGTCCTTTCCCTGGTGTATGTTATTGCATTTGTTGAAAATG	377	LGLQA*ATAPG*VFSAPFIE* TVLSLVYVIAFVENEFTIDV*I

				AGTTCACCATAGATGTGTAGATTTATTTCTGGGTTCTCTATCCTGTTCTGTTG GTCTATATGTCTGTTTTCATGCTGGTACCATGCTGTTTTGGTTACTACGGCTC TGTAGTATAATCTGAAGTCAGGTAATGTGATTCCTCCANTTTTGTTCTTTCTG CTNANG		YFWVLYPVLLVYMSVFMLV PCCFGYYGSVV*SEVR*CD SSXFVLSAX
Shigella ipaH9.8	6	prey66872	177	TTTCACTCAAGAAGATATTGACAGAGCTATTGCTTACCTTTTCCCAAGTGGTT TGTTTGAGAAACGAGCCAGGCCAGTAATGAAGCATCCTGAACAGATTTTTCC AAGACAAAGAGCAATCCAGTGGGGAGAAGATGGCCGTCCATTTCACTATCTC TTCTATACTGGCAAACAGTCATACTATTCATTAATGATTACCAGCTTTACTTCC CGATCACACAGGACAGAGAACAGCTGA	378	FTQEDIDRAIAYLFPSGLFE KRARPVMKHPEQIFPRQRA IQWGEDGRPFHYLFYTGK QSYYSLMITSFTSRSHRTE NS*
Shigella ipaH9.8	6	prey67690	178	ATGGAGATGAGGCTTCCAGTGGCTCGCAAGCCTCTTAGCGAGAGACTGGGC CGCGACACTAAGAAACATCTAGTGGTGCCGGGGGATACAATCACTACGGAC ACAGGATTCATGCGGGGCCATGGAACGTATATGGGAGAAGAGAAGCTCATT GCATCTGTTGCTGGCTCTGTGGAGAGAGTAAACAAGTTGATCTGTGTGAAAG CTTTGAAAACCAGATACATTGGTGAAGTAGGAGACATCGTAGTGGGACGAAT CACAGAGAGGAGAAGATCTGCAGAAGATGAGCTTGCAATGAGAGGTTTCTTA CAGGAAGGGGACCTTATCAGTGCTGAGGTCCAGGCAGTGTTCTCTGACGGA GCTGTCTCTTTGCACACGAGGAGCCTGAAATATGGAAAACTAGGTCAGGGG GTTTTGGTCCAGGTTTCCCCCTCCCTGGTGAAACGGCAGAAGACCCACTTTC ATGATTTGCCATGTGGTGCCTCAGTGATTCTCGGTAACAACGGCTTCATCTG GATTTACCCAACACCTGAGCACAAAGAAGAGGAAGCAGGGGGCTTCATTGC AAACCTGGAGCCTGTCTCTCTTGCTGATCGAGAGGTGATATCCCGGCTTCGG AACTGCATCATCTCGCTGGTAACTCAGAGGATGATGCTGTATGATACCAGCA TCCTGTACTGCTATGAAGCATCCCTTCCACATCAGATCAAAGACATCTTAAAG CCAGAAATAATGGAGGAGATTGTGATGGAAACACGCCAGAGGCTTTTGGAAC AGGAGGGATAA	379	MEMRLPVARKPLSERLGR DTKKHLVVPGDTITTDTGF MRGHGTYMGEEKLIASVA GSVERVNKLICVKALKTRYI GEVGDIVVGRITERRRSAE DELAMRGFLQEGDLISAEV QAVFSDGAVSLHTRSLKYG KLGQGVLVQVSPSLVKRQK THFHDLPCGASVILGNNGFI WIYPTPEHKEEEAGGFIANL EPVSLADREVISRLRNCIISL VTQRMMLYDTSILYCYEAS LPHQIKDILKPEIMEEIVMET RQRLLEQEG*
Shigella ipaH9.8	6	prey67695	179	CAAAGATTTAAATATGAATGTGAACAGCTTTCAAAGGAAATTTGTGAATGAAG TCAGAAGGTGTGAATCACTGGAGAGAATCCTCCGTTTTCTGGAAGACGAGAT GCAAAATGAGATTGTAGTTCAGTTGCTCGAGAAAAGCCCACTGACCCCGCTC CCACGGGAAATGATTACCCTGGAGACTGTTCTAGAAAAACTGGAAGGAGAGT TACAGGAAGCCAACCAGAACCAGCAGGCCTTGAAACAAAGCTTCCTAGAACT GACAGAACTGAAATACCTCCTGAAGAAAACCCAAGACTTCTTTGAGACGGAA ACCAATTTAGCTGATGATTTCTTTACTGAGGACACTTCTGGCCTCCTGGAGTT GAAAGCAGTGCCTGCATATATGACCGGAAAGTTGGGGTTCATAGCCGGTGT GATCAACAGGGAGAGGATGGCTTCCTTTGAGCGGTTACTGTGGCGAATCTG CCGAGGAAACGTGTACTTGAAGTTCAGTGAGATGGACGCCCCTCTGGAGGA TCCTGTGACGAAAGAAGAAATTCAGAAGAACATATTCATCATATTTTACCAAG GAGAGCAGCTCAGGCAGAAAATCAAGAAGATCTGTGATGGGTTTCGAGCCA CTGTCTACCCTTGCCCAGAGCCTGCGGTGGAGCGCAGAGAGATGTTGGAGA GCGTCAATGTGAGGCTGGAAGATTTAATCACCGTCATAACACAAACAGAGTC	380	KDLNMNVNSFQRKFVNEV RRCESLERILRFLEDEMQN EIVVQLLEKSPLTPLPREMI TLETVLEKLEGELQEANQN QQALKQSFLELTELKYLLKK TQDFFETETNLADDFFTED TSGLLELKAVPAYMTGKLG FIAGVINRERMASFERLLW RICRGNVYLKFSEMDAPLE DPVTKEEIQKNIFIIFYQGEQ LRQKIKKICDGFRATVYPCP EPAVERREMLESVNVRLED LITVITQTESHRQRLLQEAA ANWHSWLIKVQKMKAVYHI

				TCACCGCCAGCGCCTGCTGCAGGAAGCCGCTGCCAACTGGCACTCCTGGCT CATCAAGGTGCAGAAGATGAAAGCTGTCTACCACATCCTGAACATGTGCAAC ATCGACGTCACCCAGCAGTGTGTCATCGCCGAGATCTGGTTCCCGGTGGCA GATGCCACACGTATCAAGAGGGCACTGGAGCAAGGCATGGAACTAAGTGGC TCCTCCATGGCCCCCATCATGACCACAGTGCAATCTAAAACAGCCCCTCCCA CATTTAACAGGAC		LNMCNIDVTQQCVIAEIWFP VADATRIKRALEQGMELSG SSMAPIMTTVQSKTAPPTF NR
Shigella ipaH9.8	6	prey67336	180	ATGGGAGTGACATGGGACTTCAGCATGAGCAATGGAGGGCCCCGTGGGAA GACCTATGCTTTCAAGGGGGACTATGTGTGGACTGTATCAGATTCAGGACCG GGCCCCTTGTTCCGAGTGTCTGCCCTTTGGGAGGGGCTCCCCGGAAACCTG GATGCTGCTGTCTACTCGCCTCGAACACAATGGATTCACTTCTTTAAGGGAG ACAAGGTGTGGCGCTACATTAATTTCAAGATGTCTCCTGGCTTCCCCAAGAA GCTGAATAGGGTAGAACCTAACCTGGATGCAGCTCTCTATTGGCCTCTCAAC CAAAAGGTGTTCCTCTTTAAGGGCTCCGGGTACTGGCAGTGGGACGAGCTA GCCCGAACTGACTTCAGCAGCTACCCCAAACCAATCAAGGGTTTGTTTACGG GAGTGCCAAACCAGCCCTCGGCTGCTATGAGTTGGCAAGATGGCCGAGTCT ACTTCTTCAAGGGCAAAGTCTACTGGCGCCTCAACCAGCAGCTTCGAGTAGA GAAAGGCTATCCCAGAAATATTTCCCACAACTGGATGCACTGTCGTCCCCGG ACTATAGACACTACCCCATCAGGTGGGAATACCACTCCCTCAGGTACGGGCA TAACCTTGGATACCACTCTCTCAGCCACAGAAACCACGTTTGAATACTGA	381	MGVTWDFSMSNGGPRGK TYAFKGDYVWTVSDSGPG PLFRVSALWEGLPGNLDAA VYSPRTQWIHFFKGDKVW RYINFKMSPGFPKKLNRVE PNLDAALYWPLNQKVFLFK GSGYWQWDELARTDFSSY PKPIKGLFTGVPNQPSAAM SWQDGRVYFFKGKVYWRL NQQLRVEKGYPRNISHNW MHCRPRTIDTTPSGGNTTP SGTGITLDTTLSATETTFEY*
Shigella ipaH9.8	6	prey6299	181	AGACCAGAGCCATGTTGTTCAAGAGCATTTAAGTGAAGAAAAGGATGAAAGA CTACACTGTGAGAATAATGATAAAGCCCCTGAATCAGAGTCAGAGAAGCCAA CTCCTCTGTCCACTGGGCAAGGTAATAGAGCTGAAGAGGGACCAAACGCTA GTTCAGGTTTCATGAAGACTGCTGTACTAGGACCTACACTGAAAAATGTAATG ATGAAAAATAATAAACTAGCAGTTTCCCCTAACTATAATGCTACGTTTATGGG CTTCAAGATGATGGATGGAAAACAGCATATTGTATTAAAATTGGTGCCTATCA AACAAAATGTATGTTCACCAGGCTCACAGTCAGGTGCTGCAAAGGACGGTAC TGCTAATTTGCAGCCCCAGACTTTGGACACTAATGGATTTTTAACAGGAGTAA CAACTGAGTTAAATGACACAGTTTATATGAAAGCAGCTACTCCATTTTCATGT TCATCTTCTATACTTTCAGGGAAAGCAAGTTCAGAAAAAGAAATGACTTTGAT ATCTCAAAGGAATAATATGCTTCAAACAATGGATTATGAGAAAAGTGTATCTT CTTTGTCAGCAACATCAGAATTGGTTACAGCATCAGTGAATTTGACCACAAAA TTTGAAACAAGAGATAATGTTGACTTCTGGGGAAATCATCTCACTCAGAGTCA CCCCGAGGTATTAGGTACCACCATTAAAAGTCCAGATAAAGTCAACTGTGTT GCCAAACCAAATGCATACAACAGTGGAGATATGCATAATTATTGCATTAATTA TGGCAACTGTGAGTTACCTGTTGAATCCTCCAACCAAGGATCATTACCTTTTC ATAATTACTCAAAAGTGAATAATTCTAATAAACGTCGTAGGTTTTCAGGAACA GCAGTGTATGAAAACCCTCAAAGAGAATCTTCATCCAGCAAAACAGTTGTCC AACAACCAATTAGTGAATCATTTTTATCACTAGTGAGGCAGGAGAGCTCAAAA CCAGATAGCCTATTAGCATCTATTAGCCTTTTAAATGATAAAGATGGAACTTT	382	DQSHVVQEHLSEEKDERL HCENNDKAPESESEKPTPL STGQGNRAEEGPNASSGF MKTAVLGPTLKNVMMKNN KLAVSPNYNATFMGFKMM DGKQHIVLKLVPIKQNVCSP GSQSGAAKDGTANLQPQT LDTNGFLTGVTTELNDTVY MKAATPFSCSSSILSGKAS SEKEMTLISQRNNMLQTMD YEKSVSSLSATSELVTASV NLTTKFETRDNVDFWGNHL TQSHPEVLGTTIKSPDKVN CVAKPNAYNSGDMHNYCI NYGNCELPVESSNQGSLPF HNYSKVNNSNKRRRFSGT AVYENPQRESSSSKTVVQ QPISESFLSLVRQESSKPD SLLASISLLNDKDGTLKAKS EIEEQYVLEKGQNIDGQNL

				AAAAGCAAAATCTGAAATTGAAGAACAGTATGTTTTAGAAAAAGGACAAAACA TTGATGGACAAAACCTGTACAGTAATGAAAATCAAAATTTAGAGTGTGCGACT GAAAAATCTAAATGGGAAGACTTTTCTAATGTCGATTCACCTATGATGCCTAG AATCACATCTGTTTTCTCTCTCCAGAGCCAACAGGCATCAGAATTTCTGCCAC CTGAAGTAAACCAATTGCTTCAGGATGTATTGAAAATAAAACCTGATGTAAAA CAAGACTCTAGTAACACTCCAAATAAAGGCTTGCCACTTCATTGTGACCAGTC ATTTCAAAAACACGAGAGAGAAGGCAAAATTGTTGAATCTTCGAAAGATTTCA AAGTGCAAGGCATCTTCCCAGTTCCACCTGGCAGTGTGGGTATTAATGTGCC TACAAATGATTTGAATTTGAAATTTGGAAAAGAAAAACAAGTGTCATCAATAC CACAAGATGTGAGAGATTCAGAGAAGATGCCTAGAATTTCAGGTTTTGGCAC ATTACTTAAGACTCAGTCAGATGCGATAATAACACAGCAGCTTGTAAAAGACA AACTACGAGCCACCACACAAAATTTAGGTTCTTTTTATATGCAGAGTCCACTT TTAAATTCAGAACAAAAAAAAACTATAATTGTTCAGACTTCAAAAGGATTCTTA ATACCATTGAACATTACTAACAAGCCTGGGCTACCAGTTATTCCTGGAAATGC ACTTCCATTGGTTAATTCACAAGGTATCCCTGCTTCTCTTTTTGTAAACAAGAA ACCTGGGATGGTTTTAACACTTAATAATGGGAAACTTGAAGGTGTTTCCGCT GTCAAAACCGAGGGTGCCCCAGCTCGTGGAACTGTGACTAAGGAGCCTTGC AAAACACCTATTTTGAAGGTAGAACCAAACAATAATTGTCTTACACCTGGACT TTGTTCCAGCATTGGCAGTTGTTTGAGCATGAAAAGTAGCTCAGAAAATACTT TGCCATTAAAAGGCCCTTACATTTTGAAACCAACGAGTTCTGTGAAAGCTGTT CTTATTCCTAACATGCTATCTGAGCAACAGAGCACTAAGTTGAATATCTCCGA TTCAGTAAAACAGCAGAATGAGATTTTTCCAAAACCACCTCTTTATACCTTCTT GCCTGATGGCAAACAAGCTGTTTTTTTAAAGTGTGTGATGCCAAATAAAACTG AGCTGCTTAAGCCCAAATTAGTCCAAAATAGTACTTATCAAAATATACAGCCA AAGAAACCTGAAGGAACACCACAAAGAATATTGCTGAAAATTTTTAACCCTGT TTTAAATGTGACTGCTGCTAATAATCTGTCAGTAAGCAACTCTGCATCCTCAT TGCAAAAAGACAACGTACCATCTAATCAGATTATAGGAGGAGAGCAGAAAGA GCCAGAATCTAGAGATGCCTTACCCTTCTTACTAGATGACTTAATGCCAGCAA ATGAAATTGTGATAACTTCTACTGCAACATGCCCAGAATCTTCTGAGGAACCA ATATGTGTCAGTGACTGTTCAGAGTCCAGGGTATTAAGGTGTAAAACAAATTG TAGAATTGAGAGGAACTTCAATAGAAAAAAGACTTCCAAAAAAAATTTTTTCAA AAACAAAAAACTCATGGAAGTAA		YSNENQNLECATEKSKWE DFSNVDSPMMPRITSVFSL QSQQASEFLPPEVNQLLQD VLKIKPDVKQDSSNTPNKG LPLHCDQSFQKHEREGKIV ESSKDFKVQGIFPVPPGSV GINVPTNDLNLKFGKEKQV SSIPQDVRDSEKMPRISGF GTLLKTQSDAIITQQLVKDK LRATTQNLGSFYMQSPLLN SEQKKTIIVQTSKGFLIPLNI TNKPGLPVIPGNALPLVNS QGIPASLFVNKKPGMVLTL NNGKLEGVSAVKTEGAPA RGTVTKEPCKTPILKVEPN NNCLTPGLCSSIGSCLSMK SSSENTLPLKGPYILKPTSS VKAVLIPNMLSEQQSTKLNI SDSVKQQNEIFPKPPLYTFL PDGKQAVFLKCVMPNKTEL LKPKLVQNSTYQNIQPKKP EGTPQRILLKIFNPVLNVTA ANNLSVSNSASSLQKDNVP SNQIIGGEQKEPESRDALP FLLDDLMPANEIVITSTATC PESSEEPICVSDCSESRVL RCKTNCRIERNFNRKKTSK KNFFKNKNSWK*
Shigella ipaH9.8	6	prey6586	182	CGCGCCGTGGAAGAAGATCCAGCAGAACACTTTCACGCGCTGGTGCAACGA GCACCTGAAGTGCGTGAGCAAGCGCATCGCCAACCTGCAGACGGACCTGAG CGACGGGCTGCGGCTTATCGCGCTGTTGGAGGTGCTCAGCCAGAAGAAGAT GCACCGCAAGCACAACCAGCGGCCCACTTTCCGCCAAATGCAGCTTGAGAA CGTGTCGGTGGCGCTCGAGTTCCTGGACCGCGAGAGCATCAAACTGGTGTC CATCGACAGCAAGGCCATCGTGGACGGGAACCTGAAGCTGATCCTGGGCCT CATCTGGACCCTGATCCTGCACTACTCCATCTCCATGCCCATGTGGGACGAG	383	APWKKIQQNTFTRWCNEH LKCVSKRIANLQTDLSDGL RLIALLEVLSQKKMHRKHN QRPTFRQMQLENVSVALEF LDRESIKLVSIDSKAIVDGNL KLILGLIWTLILHYSISMPMW DEEEDEEAKKQTPKQRLLG

				GAGGAGGATGAGGAGGCCAAGAAGCAGACCCCCAAGCAGAGGCTCCTGGG CTGGATCCAGAACAAGCTGCCGCAGCTGCCCATCACCAACTTCAGCCGGGA CTGGCAGAGCGGCCGGGCCCTGGGCGCCCTGGTGGACAGCTGTGCCCCG GGCCTGTGTCCTGACTGGGACTCTTGGGACGCCAGCAAGCCCGTTACCAAT GCGCGAGAGGCCATGCAGCAGGCGGATGACTGGCTGGGCATCCCCCAGGT GATCACCCCCGAGGAGATTGTGGACCCCAACGTGGACGAGCACTCTGTCAT GACCTACCTGTCCCAGTTCCCCAAGGCCAAGCTGAAGCCAGGGGCTCCCTT GCGCCCCAAACTGAACCCGAAGAAAGCCCGTGCCTACGGGCCAGGCATCG AGCCCACAGGCAACATGGTGAAGAAGCGGGCAGAGTTCACTGTGGAGACCA GAAGTGCTGGCCAGGGAGAGGTGCTGGTGTACGTGGAGGACCCGGCCGGA CACCAGGAGGAGGCAAAAGTGACCGCCAATAACGACAAGAACCGCACCTTC TCCGTCTGGTACGTCCCCGAGGTGACGGGGACTCATAAGGTTACTGTGCTC TTTGCTGGCCAGCACATCGCCAAGAGCCCCTTCGAGGTGTACGTGGATAAG TCACAGGGTGACGCCAGCAAAGTGACAGCCCAAGGTCCCGGCCTGGAGCC CAGTGGCAACATCGCCAACAAGACCACCTACTTTGAGATCTTTACGGCAGGA GCTGGCACGGGCGAGGTCGAGGTTGTGATCCAGGACCCCATGGGACAGAA GGGCACGGTAGAGCCTCAGCTGGAGGCCCGGGGCGACAGCACATACCGCT GCAGCTACCAGCCCACCATGGAGGGCGTCCACACCGTGCACGTCACGTTTG CCGGCGTGCCCATCCCTCGCAGCCCCTACACTGTCACTGTTGGCCAAGCCT GTAACCCGAGTGCCTGCCGGGCGGTTGGCCGGGGCCTCCAGCCCAAGGGT GTGCGGGTGAAGGAGACAGCTGACTTCAAGGTGTACACAAAGGGCGCTGGC AGTGGGGAGCTGAAGGTCACCGTGAAGGGCCCCAAGGGAGAGGAGCGCGT GAAGCAGAAGGACCTGGGGGATGGCGTGTATGGCTTCGAGTATTACCCCAT GGTCCCTGGAACCTATATCGTCACCATCACGTGGGGTGGTCAGAACATCGG GCGCAGTCCCTTCGAAGTGAAGGTGGGCACCGAGTGTGGCAATCAGAAGGT ACGGGCCTGGGGCCCTGGGCTGGAGGGCGGCGTCGTTGGCAAGTCAGCAG ACTTTGTGGTGGAGGCTATCGGGGACGACGTGGGCACGCTGGGCTTCTCG GTGGAAGGGCCATCGCAGGCTAAGATCGAATGTGACGACAAGGGCGACGG CTCCTGTGATGTGCGCTACTGGCCGCAGGAGGCTGGCGAGTATGCCGTTCA CGTGCTGTGCAACAGCGAAGACATCCGCCTCAGCCCCTTCATGGCTGACAT CCGTGACGCGCCCCAGGACTTCCACCCAGACAGGGTGAAGGCACGTGGGC CTGGATTGGAGAAGACAGGTGTGGCCGTCAACAAGCCAGCAGAGTTCACAG TGGATGCCAAGCACGGTGGCAAGGCCCCACTTCGGGTCCAAGTCCAGGACA ATGAAGGCTGCCCTGTGGAGGCGTTGGTCAAGGACAACGGCAATGGCACTT ACAGCTGCTCCTACGTGCCCAGGAAGCCGGTGAAGCACACAGCCATGGTGT CCTGGGGAGGCGTCAGCATCCCCAACAGCCCCTTCAGGGTGAATGTGGGA GCTGGCAGCCACCCCAACAAGGTCAAAGTATACGGCCCCGGAGTAGCCAAG ACAGGGCTCAAGGCCCACGAGCCCACCTACTTCACTGTGGACTGCGCCGAG GCTGGCCAGGGGGACGTCAGCATCGGCATCAAGTGTGCCCCTGGAGTGGT		WIQNKLPQLPITNFSRDWQ SGRALGALVDSCAPGLCPD WDSWDASKPVTNAREAM QQADDWLGIPQVITPEEIVD PNVDEHSVMTYLSQFPKAK LKPGAPLRPKLNPKKARAY GPGIEPTGNMVKKRAEFTV ETRSAGQGEVLVYVEDPA GHQEEAKVTANNDKNRTF SVWYVPEVTGTHKVTVLFA GQHIAKSPFEVYVDKSQGD ASKVTAQGPGLEPSGNIAN KTTYFEIFTAGAGTGEVEVV IQDPMGQKGTVEPQLEAR GDSTYRCSYQPTMEGVHT VHVTFAGVPIPRSPYTVTV GQACNPSACRAVGRGLQP KGVRVKETADFKVYTKGAG SGELKVTVKGPKGEERVK QKDLGDGVYGFEYYPMVP GTYIVTITWGGQNIGRSPFE VKVGTECGNQKVRAWGPG LEGGVVGKSADFVVEAIGD DVGTLGFSVEGPSQAKIEC DDKGDGSCDVRYWPQEA GEYAVHVLCNSEDIRLSPF MADIRDAPQDFHPDRVKAR GPGLEKTGVAVNKPAEFTV DAKHGGKAPLRVQVQDNE GCPVEALVKDNGNGTYSC SYVPRKPVKHTAMVSWGG VSIPNSPFRVNVGAGSHPN KVKVYGPGVAKTGLKAHEP TYFTVDCAEAGQGDVSIGI KCAPGVVGPAEADIDFDIIR NDNDTFTVKYTPRGAGSYT IMVLFADQATPTSPIRVKVE PSHDASKVKAEGPGLSRT GVELGKPTHFTVNAKAAGK

				AGGCCCCGCCGAAGCTGACATCGACTTCGACATCATCCGCAATGACAATGA CACCTTCACGGTCAAGTACACGCCCCGGGGGGCTGGCAGCTACACCATTAT GGTCCTCTTTGCTGACCAGGCCACGCCCACCAGCCCCATCCGAGTCAAGGT GGAGCCCTCTCATGACGCCAGTAAGGTGAAGGCCGAGGGCCCTGGCCTCA GTCGCACTGGTGTCGAGCTTGGCAAGCCCACCCACTTCACAGTAAATGCCA AAGCTGCTGGCAAAGGCAAGCTGGACGTCCAGTTCTCAGGACTCACCAAGG GGGATGCAGTGCGAGATGTGGACATCATCGACCACCATGACAACACCTACA CAGTCAAGTACACGCCTGTCCAGCAGGGTCCAGTAGGCGTCAATGTCACTTA TGGAGGGGATCCCATCCCTAAGAGCCCTTTCTCAGTGGCAGTATCTCCAAGC CTGGACCTCAGCAAGATCAAGGTGTCTGGCCTGGGAGAGAAGGTGGACGTT GGCAAAGACCAGGAGTTCACAGTCAAATCAAAGGGTGCTGGTGGTCAAGGC AAAGTGGCATCCAAGATTGTGGGCCCCTCGGGTGCAGCGGTGCCCTGCAAG GTGGAGCCAGGCCTGGGGGCTGACAACAGTGTGGTGCGCTTCCTGCCCCG TGAGGAAGGGCCCTATGAGGTGGAGGTGACCTATGACGGCGTGCCCGTGC CTGGCAGCCCCTTTCCTCTGGAAGCTGTGGCCCCCACCAAGCCTAGCAAGG TGAAGGCGTTTGGGCCGGGGCTGCAGGGAGGCAGTGCGGGCTCCCCCGCC CGCTTCACCATCGACACCAAGGGCGCCGGCACAGGTGGCCTGGGCCTGAC GGTGGAGGGCCCCTGTGAGGCGCAGCTCGAGTGCTTGGACAATGGGGATG GCACATGTTCCGTGTCCTACGTGCCCACCGAGCCCGGGGACTACAACATCA ACATCCTCTTCGCTGACACCCACATCCCTGGCTCCCCATTCAAGGCCCACGT GGTTCCCTGCTTTGACGCATCCAAAGTCAAGTGCTCAGGCCCCGGGCTGGA GCGGGCCACCGCTGGGGAGGTGGGCCAATTCCAAGTGGACTGCTCGAGCG CGGGCAGCGCGGAGCTGACCATTGAGATCTGCTCGGAGGCGGGGCTTCCG GCCGAGGTGTACATCCAGGACCACGGTGATGGCACGCACACCATTACCTAC ATTCCCCTCTGCCCCGGGGCCTACACCGTCACCATCAAGTACGGCGGCCAG CCCGTGCCCAACTTCCCCAGCAAGCTGCAGGTGGAACCTGCGGTGGACACT TCCGGTGTCCAGTGCTATGGGCCTGGTATTGAGGGCCAGGGTGTCTTCCGT GAGGCCACCACTGAGTTCAGTGTGGACGCCCGGGCTCTGACACAGACCGG AGGGCCGCACGTCAAGGCCCGTGTGGCCAACCCCTCAGGCAACCTGACGG AGACCTACGTTCAGGACCGTGGCGATGGCATGTACAAAGTGGAGTACACGC CTTACGAGGAGGGACTGCACTCCGTGGACGTGACCTATGACGGCAGTCCCG TGCCCAGCAGCCCCTTCCAGGTGCCCGTGACCGAGGGCTGCGACCCCTCC CGGGTGCGTGTCCACGGGCCAGGCATCCAAAGTGGCACCACCAACAAGCC CAACAAGTTCACTGTGGAGACCAGGGGAGCTGGCACGGGCGGCCTGGGCC TGGCTGTAGAGGGCCCCTCCGAGGCCAAGATGTCCTGCATGGATAACAAGG ACGGCAGCTGCTCGGTCGAGTACATCCCTTATGAGGCTGGCACCTACAGCC TCAACGTCACCTATGGTGGCCATCAAGTGCCAGGCAGTCCTTTCAAGGTCCC TGTGCATGATGTGACAGATGCGTCCAAGGTCAAGTGCTCTGGGCCCGGCCT GAGCCCAGGCATGGTTCGTGCCAACCTCCCTCAGTCCTTCCAGGTGGACAC		GKLDVQFSGLTKGDAVRD VDIIDHHDNTYTVKYTPVQQ GPVGVNVTYGGDPIPKSPF SVAVSPSLDLSKIKVSGLGE KVDVGKDQEFTVKSKGAG GQGKVASKIVGPSGAAVPC KVEPGLGADNSVVRFLPRE EGPYEVEVTYDGVPVPGS PFPLEAVAPTKPSKVKAFG PGLQGGSAGSPARFTIDTK GAGTGGLGLTVEGPCEAQ LECLDNGDGTCSVSYVPTE PGDYNINILFADTHIPGSPF KAHVVPCFDASKVKCSGP GLERATAGEVGQFQVDCS SAGSAELTIEICSEAGLPAE VYIQDHGDGTHTITYIPLCP GAYTVTIKYGGQPVPNFPS KLQVEPAVDTSGVQCYGP GIEGQGVFREATTEFSVDA RALTQTGGPHVKARVANP SGNLTETYVQDRGDGMYK VEYTPYEEGLHSVDVTYDG SPVPSSPFQVPVTEGCDPS RVRVHGPGIQSGTTNKPNK FTVETRGAGTGGLGLAVEG PSEAKMSCMDNKDGSCSV EYIPYEAGTYSLNVTYGGH QVPGSPFKVPVHDVTDASK VKCSGPGLSPGMVRANLP QSFQVDTSKAGVAPLQVKV QGPKGLVEPVDVVDNADG TQTVNYVPSREGPYSISVL YGDEEVPRSPFKVKVLPTH DASKVKASGPGLNTTGVPA SLPVEFTIDAKDAGEGLLAV QITDPEGKPKKTHIQDNHD GTYTVAYVPDVTGRYTILIK YGGDEIPFSPYRVRAVPTG

				AAGCAAGGCTGGTGTGGCCCCATTGCAGGTCAAAGTGCAAGGGCCCAAAGG CCTGGTGGAGCCAGTGGACGTGGTAGACAACGCTGATGGCACCCAGACCGT CAATTATGTGCCCAGCCGAGAAGGGCCCTACAGCATCTCAGTACTGTATGGA GATGAAGAGGTACCCCGGAGCCCCTTCAAGGTCAAGGTGCTGCCTACTCAT GATGCCAGCAAGGTGAAGGCCAGTGGCCCCGGGCTCAACACCACTGGCGT GCCTGCCAGCCTGCCCGTGGAGTTCACCATCGATGCAAAGGACGCCGGGG AGGGCCTGCTGGCTGTCCAGATCACGGATCCCGAAGGCAAGCCGAAGAAGA CACACATCCAAGACAACCATGACGGCACGTATACAGTGGCCTACGTGCCAG ACGTGACAGGTCGCTACACCATCCTCATCAAGTACGGTGGTGACGAGATCC CCTTCTCCCCGTACCGCGTGCGTGCCGTGCCCACCGGGGACGCCAGCAAG TGCACTGTCACAGTGTCAATCGGAGGTCACGGGCTAGGTGCTGGCATCGGC CCCACCATTCAGATTGGGGAGGAGACGGTGATCACTGTGGACACTAAGGCG GCAGGCAAAGGCAAAGTGACGTGCACCGTGTGCACGCCTGATGGCTCAGAG GTGGATGTGGACGTGGTGGAGAATGAGGACGGCACTTTCGACATCTTCTAC ACGGCCCCCCAGCCGGGCAAATACGTCATCTGTGTGCGCTTTGGTGGCGAG CACGTGCCCAACAGCCCCTTCCAAGTGACGGCTCTGGCTGGGGACCAGCCC TCGGTGCAGCCCCCTCTACGGTCTCAGCAGCTGGCCCCACAGTACACCTAC GCCCAGGGCGGCCAGCAGACTTGGGCCCCGGAGAGGCCCCTGGTGGGTGT CAATGGGCTGGATGTGACCAGCCTGAGGCCCTTTGACCTTGTCATCCCCTTC ACCATCAAGAAGGGCGAGATCACAGGGGAGGTTCGGATGCCCTCAGGCAAG GTGGCGCAGCCCACCATCACTGACAACAAAGACGGCACCGTGACCGTGCG GTATGCACCCAGCGAGGCTGGCCTGCACGAGATGGACATCCGCTATGACAA CATGCACATCCCAGGAAGCCCCTTGCAGTTCTATGTGGATTACGTCAACTGT GGCCATGTCACTGCCTATGGGCCTGGCCTCACCCATGGAGTAGTGAACAAG CCTGCCACCTTCACCGTCAACACCAAGGATGCAGGAGAGGGGGGCCTGTCT CTGGCCATTGAGGGCCCGTCCAAAGCAGAAATCAGCTGCACTGACAACCAG GATGGGACATGCAGCGTGTCCTACCTGCCTGTGCTGCCGGGGGACTACAGC ATTCTAGTCAAGTACAATGAACAGCACGTCCCAGGCAGCCCCTTCACTGCTC GGGTCACAGGTGACGACTCCATGCGTATGTCCCACCTAAAGGTCGGCTCTG CTGCCGACATCCCCATCAACATCTCAGAGACGGATCTCAGCCTGCTGACGG CCACTGTGGTCCCGCCCTCGGGCCGGGAGGAGCCCTGTTTGCTGAAGCGG CTGCGTAATGGCCACGTGGGGATTTCATTCGTGCCCAAGGAGACGGGGGAG CACCTGGTGCATGTGAAGAAAAATGGCCAGCACGTGGCCAGCAGCCCCATC CCGGTGGTGATCAGCCAGTCGGAAATTGGGGATGCCAGTCGTGTTCGGGTC TCTGGTCAGGGCCTTCACGAAGGCCACACCTTTGAGCCTGCAGAGTTTATCA TTGATACCCGCGATGCAGGCTATGGTGGGCTCAGCCTGTCCATTGAGGGCC CCAGCAAGGTGGACATCAACACAGAGGACCTGGAGGACGGGACGTGCAGG GTCACCTACTGCCCCACAGAGCCAGGCAACTACATCATCAACATCAAGTTTG CCGACCAGCACGTGCCTGGCAGCCCCTTCTCTGTGAAGGTGACAGGCGAG		DASKCTVTVSIGGHGLGAG IGPTIQIGEETVITVDTKAAG KGKVTCTVCTPDGSEVDV DVVENEDGTFDIFYTAPQP GKYVICVRFGGEHVPNSPF QVTALAGDQPSVQPPLRS QQLAPQYTYAQGGQQTWA PERPLVGVNGLDVTSLRPF DLVIPFTIKKGEITGEVRMP SGKVAQPTITDNKDGTVTV RYAPSEAGLHEMDIRYDNM HIPGSPLQFYVDYVNCGHV TAYGPGLTHGVVNKPATFT VNTKDAGEGGLSLAIEGPS KAEISCTDNQDGTCSVSYL PVLPGDYSILVKYNEQHVP GSPFTARVTGDDSMRMSH LKVGSAADIPINISETDLSLL TATVVPPSGREEPCLLKRL RNGHVGISFVPKETGEHLV HVKKNGQHVASSPIPVVIS QSEIGDASRVRVSGQGLHE GHTFEPAEFIIDTRDAGYG GLSLSIEGPSKVDINTEDLE DGTCRVTYCPTEPGNYIINI KFADQHVPGSPFSVKVTGE GRVKESITRRRRAPSVANV GSHCDLSLKIPEISIQDMTA QVTSPSGKTHEAEIVEGEN HTYCIRFVPAEMGTHTVSV KYKGQHVPGSPFQFTVGP LGEGGAHKVRAGGPGLER AEAGVPAEFSIWTREAGAG GLAIAVEGPSKAEISFEDRK DGSCGVAYVVQEPGDYEV SVKFNEEHIPDSPFVVPVA SPSGDARRLTVSSLQESGL KVNQPASFAVSLNGAKGAI DAKVHSPSGALEECYVTEI

				GGCCGGGTGAAAGAGAGCATCACCCGCAGGCGTCGGGCTCCTTCAGTGGC CAACGTTGGTAGTCATTGTGACCTCAGCCTGAAAATCCCTGAAATTAGCATC CAGGATATGACAGCCCAGGTGACCAGCCCATCGGGCAAGACCCATGAGGCC GAGATCGTGGAAGGGGAGAACCACACCTACTGCATCCGCTTTGTTCCCGCT GAGATGGGCACACACACAGTCAGCGTCAAGTACAAGGGCCAGCACGTGCCT GGGAGCCCCTTCCAGTTCACCGTGGGGCCCCTAGGGGAAGGGGGAGCCCA CAAGGTCCGAGCTGGGGGCCCTGGCCTGGAGAGAGCTGAAGCTGGAGTGC CAGCCGAATTCAGTATCTGGACCCGGGAAGCTGGTGCTGGAGGCCTGGCCA TTGCTGTCGAGGGCCCCAGCAAGGCTGAGATCTCTTTTGAGGACCGCAAGG ACGGCTCCTGTGGTGTGGCTTATGTGGTCCAGGAGCCAGGTGACTACGAAG TCTCAGTCAAGTTCAACGAGGAACACATTCCCGACAGCCCCTTCGTGGTGCC TGTGGCTTCTCCGTCTGGCGACGCCCGCCGCCTCACTGTTTCTAGCCTTCA GGAGTCAGGGCTAAAGGTCAACCAGCCAGCCTCTTTTGCAGTCAGCCTGAA CGGGGCCAAGGGGGCGATCGATGCCAAGGTGCACAGCCCCTCAGGAGCCC TGGAGGAGTGCTATGTCACAGAAATTGACCAAGATAAGTATGCTGTGCGCTT CATCCCTCGGGAGAATGGCGTTTACCTGATTGACGTCAAGTTCAACGGTACC CACATCCCTGGAAGCCCCTTCAAGATCCGAGTTGGGGAGCCTGGGCATGGA GGGGACCCAGGCTTGGTGTCTGCTTACGGAGCAGGTCTGGAAGGCGGTGT CACAGGGAACCCAGCTGAGTTCGTCGTGAACACGAGCAATGCGGGAGCTGG TGCCCTGTCGGTGACCATTGACGGCCCCTCCAAGGTGAAGATGGATTGCCA GGAGTGCCCTGAGGGCTACCGCGTCACCTATACCCCCATGGCACCTGGCAG CTACCTCATCTCCATCAAGTACGGCGGCCCCTACCACATTGGGGGCAGCCC CTTCAAGGCCAAAGTCACAGGCCCCCGTCTCGTCAGCAACCACAGCCTCCA CGAGACATCATCAGTGTTTGTAGACTCTCTGACCAAGGCCACCTGTGCCCCC CAGCATGGGGCCCCGGGTCCTGGGCCTGCTGACGCCAGCAAGGTGGTGGC CAAGGGCCTGGGGCTGAGCAAGGCCTACGTAGGCCAGAAGAGCAGCTTCA CAGTAGACTGCAGCAAAGCAGGCAACAACATGCTGCTGGTGGGGGTTCATG GCCCAAGGACCCCCTGCGAGGAGATCCTGGTGAAGCACGTGGGCAGCCGG CTCTACAGCGTGTCCTACCTGCTCAAGGACAAGGGGGAGTACACACTGGTG GTCAAATGGGGGCACGAGCACATCCCAGGCAGCCCCTACCGCGTTGTGGTG CCCTGA		DQDKYAVRFIPRENGVYLID VKFNGTHIPGSPFKIRVGEP GHGGDPGLVSAYGAGLEG GVTGNPAEFVVNTSNAGA GALSVTIDGPSKVKMDCQE CPEGYRVTYTPMAPGSYLI SIKYGGPYHIGGSPFKAKVT GPRLVSNHSLHETSSVFVD SLTKATCAPQHGAPGPGP ADASKVVAKGLGLSKAYVG QKSSFTVDCSKAGNNMLLV GVHGPRTPCEEILVKHVGS RLYSVSYLLKDKGEYTLVV KWGHEHIPGSPYRVVVP*
Shigella ipaH9.8	6	prey56789	183	CCCCAACATCATCCAGTTTGTGCCAGCTGATGGGCCCCTATTTGGGGACACT GTCACCAGCTCAGAGCACCTCTGTGGCATCAACTTCACAGGCAGTGTGCCC ACCTTCAAACACCTGTGGAAGCAGGTGGCCCAGAACCTGGACCGGTTCCAC ACCTTCCCACGCCTGGCTGGAGAGTGCGGCGGAAAGAACTTCCACTTCGTG CACCGCTCGGCCGACGTGGAGAGCGTGGTGAGCGGGACCCTCCGCTCAGC CTTCGAGTACGGTGGCCAGAAGTGTTCCGCCTGCTCGCGTCTCTACGTGCC GCACTCGCTGTGGCCGCAGATCAAAGGGCGGCTGCTGGAGGAGCACAGTC GGATCAAAGTGGGCGACCCTGCAGAGGATTTTGGGACCTTCTTCTCTGCAGT	384	PNIIQFVPADGPLFGDTVTS SEHLCGINFTGSVPTFKHL WKQVAQNLDRFHTFPRLA GECGGKNFHFVHRSADVE SVVSGTLRSAFEYGGQKC SACSRLYVPHSLWPQIKGR LLEEHSRIKVGDPAEDFGT FFSAVIDAKSFARIKKWLEH

				GATTGATGCCAAGTCCTTTGCCCGTATCAAGAAGTGGCTGGAGCACGCGCGCTCCTCGCCCAGCCTCACCATCCTGGCTGGGGGCAAGTGTGATGACTCCGTGGGCTACTTTGTGGAGCCCTGCATCGTGGAGAGCAAGGACCCTCAGGAGCCCATCATGAAGGAGGAGATCTTCGGGCCTGTACTGTCTGTGTACGTCTACCCGGACGACAAGTACAAGGAGACGCTGCAGCTGGTTGACAGCACCACCAGCTATGGCCTCACGGGGGCAGTGTTCTCCCAGGATAAGGACGTCGTGCAGGAGGCCACAAAGGTGCTGAGGAATGCTGCCGGCAACTTCTACATCAACGACAAGTCCACTGGCTCGATAGTGGGCCAGCAGCCCTTTGGGGGGGCCCGAGCCTCTGGAACCAATGACAAGCCAGGGGGCCCACACTACATCCTGCGCTGGACGTCGCCGCAGGTCATCAAGGAGACACATAAGCCCCTGGGGGACTGGAGCTACGCGTACATGCAGTGA		ARSSPSLTILAGGKCDDSVGYFVEPCIVESKDPQEPIMKEEIFGPVLSVYVYPDDKYKETLQLVDSTTSYGLTGAVFSQDKDVVQEATKVLRNAAGNFYINDKSTGSIVGQQPFGGARASGTNDKPGGPHYILRWTSPQVIKETHKPLGDWSYAYMQ*
Shigella ipaH9.8	6	prey67711	184	AACAGAGCTGCCTCCTGGCTCTTTGGGAGCCTGGGAGGAGAAGGAGCCGGGAGGGGCGCTGCGGGGAAGCCACCTGCGGATTCACTGGCTGCTGCTCCGCCCAGGACTGCTAGCAAGCACGGAGGGCTGCCAGACCTGGGGCTCCCTGCTCCGTGCGTCAGGTTGGGGAAACCACCGTCTGCCCCAGACCCTGACCCAGGACCCGCCTGGAGGAAGCTGGG	385	NRAASWLFGSLGGEGAGRGAAGKPPADSLAAAPPRTASKHGGLPDLGLPAPCVRLGKPPSAPDPDPGPAWRKL
Shigella ipaH9.8	6	prey2118	185	ATGTCTCAGGCTGTGCAGACAAACGGAACTCAACCATTAAGCAAAACATGGGAACTCAGTTTATATGAGTTACAACGAACACCTCAGGAGGCAATAACAGATGGCTTAGAAATTGTGGTTTCACCTCGAAGTCTACACAGTGAATTAATGTGCCCAATTTGTTTGGATATGTTGAAGAACACCATGACTACAAAGGAGTGTTTACATCGTTTTTGTGCAGACTGCATCATCACAGCCCTTAGAAGTGGCAACAAAGAATGTCCTACCTGTCGGAAAAAACTAGTTTCCAAAAGATCACTAAGGCCAGACCCAAACTTTGATGCACTCATCAGCAAAATTTATCCAAGTCGTGATGAGTATGAAGCTCATCAAGAGAGAGTATTAGCCAGGATCAACAAGCACAATAATCAGCAAGCACTCAGTCACAGCATTGAGGAAGGACTGAAGATACAGGCCATGAACAGACTGCAGCGAGGCAAGAAACAACAGATTGAAAATGGTAGTGGAGCAGAAGATAATGGTGACAGTTCACACTGCAGTAATGCATCCACACATAGCAATCAGGAAGCAGGCCCTAGTAACAAACGGACCAAAACATCTGATGATTCTGGGCTAGAGCTTGATAATAACAATGCAGCAATGGCAATTGATCCAGTAATGGATGGTGCTAGTGAAATTGAATTAGTATTCAGGCCTCATCCCACACTTATGGAAAAAGATGACAGTGCACAGACGAGATACATAAAGACTTCTGGTAACGCCACTGTTGATCACTTATCCAAGTATCTGGCTGTGAGGTTAGCTTTAGAAGAACTTCGAAGCAAAGGTGAATCAAACCAGATGAACCTTGATACAGCCAGTGAGAAGCAGTATACCATTTATATAGCAACAGCCAGTGGCCAGTTCACTGTATTAAATGGCTCTTTTTCTTTGGAATTGGTCAGTGAGAAATACTGGAAAGTGAACAAACCCATGGAACTTTATTACGCACCTACAAAGGAGCACAAATGA	386	MSQAVQTNGTQPLSKTWELSLYELQRTPQEAITDGLEIVVSPRSLHSELMCPICLDMLKNTMTTKECLHRFCADCIITALRSGNKECPTCRKKLVSKRSLRPDPNFDALISKIYPSRDEYEAHQERVLARINKHNNQQALSHSIEEGLKIQAMNRLQRGKKQQIENGSGAEDNGDSSHCSNASTHSNQEAGPSNKRTKTSDDSGLELDNNNAAMAIDPVMDGASEIELVFRPHPTLMEKDDSAQTRYIKTSGNATVDHLSKYLAVRLALEELRSKGESNQMNLDTASEKQYTIYIATASGQFTVLNGSFSLELVSEKYWKVNKPMELYYAPTKEHK*
Shigella ipaH9.8	6	prey3596	186	ATGTCCAAGCGGCACCGGTTGGACCTAGGGGAGGATTACCCCTCTGGCAAGAAGCGTGCGGGGACCGATGGGAAGGATCGAGATCGAGACCGGGATCGTGAAGATCGGTCTAAAGATCGAGACCGAGAACGTGATAGAGGAGATAGAGAGCG	387	MSKRHRLDLGEDYPSGKKRAGTDGKDRDRDRDREDRSKDRDRERDRGDRERERE

				AGAGAGGGAGAAAGAAAAGGAGAAGGAGTTGCGAGCTTCAACAAATGCTAT GCTTATCAGTGCTGGATTACCACCCCTGAAAGCTTCCCATTCAGCTCACTCA ACCCACTCAGCACATTCAACGCATTCTACACATTCTGCTCATTCAACGCATGC CGGACATGCAGGTCACACGTCACTTCCACAGTGCATTAATCCGTTCACCAAC TTACCCCATACTCCTCGATACTATGATATTCTAAAGAAACGTCTTCAGCTCCC TGTTTGGGAATACAAGGATAGGTTTACAGATATTCTGGGTAGACATCAGTCCT TTGTACTGGTTGGTGAGACTGGGTCTGGTAAAACAACACAAATTCCACACCG GTGTGTGGAGTACATGCGATCATTACCAGGACCCAAGAGAGGAGTTGCCTG TACCCAACCCAGGAGAGTGGCTGCAATGAGTGTGGCTCAGAGAGTTGCTGA TGAGATGGATGTGATGTTGGGCCAGGAAGTTGGTTACTCCATTCGATTTGAA GACTGCAGTAGTGCAAAAACATTTTTTATGTATATGACTGATGGGATGTTACT TCGTGAAGCTATGAATGATCCCCTCCTGGAGCGTTATGGTGTAATAATTCTTG ATGAGGCTCATGAGAGGACACTGGCTACAGATATTCTAATGGGTGTTCTGAA GGAAGTTGTAAGACAGAGATCAGATTTAAAGGTTATAGTTATGAGCGCTACT CTAGATGCAGG		KEKEKELRASTNAMLISAGL PPLKASHSAHSTHSAHSTH STHSAHSTHAGHAGHTSLP QCINPFTNLPHTPRYYDILK KRLQLPVWEYKDRFTDILG RHQSFVLVGETGSGKTTQI PHRCVEYMRSLPGPKRGV ACTQPRRVAAMSVAQRVA DEMDVMLGQEVGYSIRFE DCSSAKTFFMYMTDGMLL REAMNDPLLERYGVIILDEA HERTLATDILMGVLKEVVR QRSDLKVIVMSATLDA
Shigella ipaH9.8	6	prey666	187	CATCACATCCCGGTTGGAATCTGTGCACATCATACTGAGAGATGGCCTGGAA GATCCCCTGGAGGATACGGGGCTGGTCCAGCAGCAGTTGGACCAGCTGTCC ACCATTGGGCGTTGTGAATATGAGAAGACGTGTGCACTCCTCGTGCAGTTGT TTGACCAGTCGGCCCAGTCGTACCAGGAGCTGCTACAGAGCGCCAGCGCAA GCCCAATGGACATTGCAGTGCAGGAGGGAAGGCTGACATGGCTGGTTTACA TTATTGGAGCAGTGATCGGTGGCCGGGTTTCTTTTGCCAGCACTGATGAGCA AGACGCCATGGATGGTGAGCTTGTCTGTCGGGTGCTCCAGCTGATGAACCT AACAGATTCTCGTTTGGCCCAGGCGGGTAATGAGAAGCTAGAGTTGGCCAT GCTGAGCTTTTTTGAACAGTTTCGTAAGATCTACATTGGGGACCAAGTGCAG AAATCCTCTAAGCTGTACCGCCGAC	388	ITSRLESVHIILRDGLEDPLE DTGLVQQQLDQLSTIGRCE YEKTCALLVQLFDQSAQSY QELLQSASASPMDIAVQEG RLTWLVYIIGAVIGGRVSFA STDEQDAMDGELVCRVLQ LMNLTDSRLAQAGNEKLEL AMLSFFEQFRKIYIGDQVQ KSSKLYRR
Shigella ospG	7	prey3917	188	GATGACCACGCTATACACCGCCAAGAAGTACGCGGTGCCAGCGCTCGAGGC CCATTGCGTGGAGTTCCTGAAGAAGAACCTGCGAGCCGACAACGCCTTCAT GCTGCTCACGCAGGCGCGACTCTTCGATGAACCGCAGCTGGCCAGCCTGTG CCTGGAGAACATCGACAAAAACACTGCAGACGCCATCACCGCGGAGGGCTT CACCGACATTGACCTGGACACGCTGGTGGCTGTCCTGGAGCGCGACACACT GGGCATCCGTGAGGTGCGGCTGTTCAATGCCGTTGTCCGCTGGTCCGAGGC CGAGTGTCAGCGGCAGCAGCTGCAGGTGACGCCAGAGAACAGGCGGAAGG TTCTGGGCAAGGCCCTGGGCCTCATTCGCTTCCCGCTCATGACCATCGAGG AGTTCGCTGCAGGTCCCGCACAGTCGGGCATCCTGGTGGACCGCGAGGTG GTCAGCCTCTTCCTGCACTTCACCGTCAACCCCAAGCCACGAGTGGAGTTCA TTGACCGGCCCCGCTGCTGCCTGCGTGGGAAGGAGTGCAGCATCAACCGCT TCCAGCAGGTGGAGAGTCGCTGGGGCTACAGCGGGACCAGTGACCGCATC AGGTTCTCAGTCAACAAGCGCATCTTCGTGGTGGGATTTGGGCTGTATGGAT CCATCCACGGGCCCACCGACTACCAAGTGAACATCCAGATTATTCACACCGA	389	MTTLYTAKKYAVPALEAHC VEFLKKNLRADNAFMLLTQ ARLFDEPQLASLCLENIDKN TADAITAEGFTDIDLDTLVA VLERDTLGIREVRLFNAVVR WSEAECQRQQLQVTPENR RKVLGKALGLIRFPLMTIEE FAAGPAQSGILVDREVVSL FLHFTVNPKPRVEFIDRPR CCLRGKECSINRFQQVESR WGYSGTSDRIRFSVNKRIF VVGFGLYGSIHGPTDYQVN IQIIHTDSNTVLGQNDTGFS CDGSASTFRVMFKEPVEVL

				TAGCAACACCGTCTTGGGCCAGAACGACACGGGCTTCAGCTGCGACGGCTC AGCCAGCACCTTCCGCGTCATGTTCAAGGAGCCGGTGGAGGTGCTGCCCAA CGTCAACTACACGGCCTGTGCCACGCTCAAGGGCCCAGACTCCCACTACGG CACCAAAGGCCTGCGCAAGGTGACACACGAGTCGCCCACCACGGGCGCCA AGACCTGCTTCACCTTTTGCTACGCGGCCGGGAACAACAATGGCACATCCGT GGAGGACGGCCAGATCCCCGAGGTCATCTTCTACACCTAG		PNVNYTACATLKGPDSHYG TKGLRKVTHESPTTGAKTC FTFCYAAGNNNGTSVEDG QIPEVIFYT*
Shigella ospG	7	prey63632	189	CTGTGGGAAAGCCTTCAGTTGGAAATCACACCTTATTGAGCATCAAAGAACT CACACTGGTGAGAAACCTTATCACTGTACCAAATGTAAGAAGAGCTTTAGTC GAAATTCATTGCTTGTTGAGCATCAAAGAATTCACACTGGGGAAAGACCCCA TAAATGTGGTGAATGTGGGAAAGCCTTTCGATTAAGCACATACCTTATACAAC ACCAAAAAAATTCACACTGGCGAGAAGCCTTTTCTTTGTATTGAGTGTGGAAAA AGTTTCAGTCGGAGCTCATTCCTTATTGAACATCAGAGGATCCATACTGGTG AAAGACCTTATCAGTGCAAAGAGTGTGGGAAAAGTTTCAGTCAGCTTTGCAA CCTTACTCGTCATCAGAGAATTCACACAGGAGACAAGCCCCATAAATGTGAG GAATGTGGAAAAGCCTTTAGTAGAAGCTCAGGTCTTATTCAGCATCAGAGAA TTCACACCAGGGAGAAGACTTATCCATACAATGAAACTAAGGAAAGTTTTGAT CCAAATTGCAGTCTTGTTATACAGCAGGAAGTCTACCCTAAGGAGAAATCTTA TAAATGTGATGAATGTGGGAAAACTTTTAGTGTTAGTGCTCATCTTGTACAAC ATCAAAGAATCCACACTGGTGAAAAGCCCTATCTATGTACTGTCTGTGGGAA GAGCTTCAGCCGGAGCTCATTTCTTATTGAACATCAGAGAATCCACACTGGA GAGAGACCCTATCTGTGCAGACAGTGTGGAAAAAGCTTTAGTCAGCTTTGTA ATCTTATTCGACATCAGGGTGTTCACACAGGTAATAAACCCCATAAATGTGAT GAATGTGGAAAGGCCTTTAGCCGGAACTCGGGTCTTATTCAGCATCAGAGAA TACACACAGGAGAGAAACCTTATAAGTGTGAGAAGTGCGACAAAAGTTTCAG TCAACAGCGCAGTCTTGTCAACCATCAGATGATCCATGCAGAGGTGAAAACC CAAGAAACCCATGAATGTGATGCTTGTGGTGAAGCCTTTAATTGCCGTATTTC TCTTATTCAGCATCAGAAATTGCACACAGCATGGATGCAATAA	390	CGKAFSWKSHLIEHQRTHT GEKPYHCTKCKKSFSRNSL LVEHQRIHTGERPHKCGEC GKAFRLSTYLIQHQKIHTGE KPFLCIECGKSFSRSSFLIE HQRIHTGERPYQCKECGK SFSQLCNLTRHQRIHTGDK PHKCEECGKAFSRSSGLIQ HQRIHTREKTYPYNETKES FDPNCSLVIQQEVYPKEKS YKCDECGKTFSVSAHLVQH QRIHTGEKPYLCTVCGKSF SRSSFLIEHQRIHTGERPYL CRQCGKSFSQLCNLIRHQG VHTGNKPHKCDECGKAFS RNSGLIQHQRIHTGEKPYK CEKCDKSFSQQRSLVNHQ MIHAEVKTQETHECDACGE AFNCRISLIQHQKLHTAWM Q*
Shigella ospG	7	prey2109	190	GACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATTGGCTCTTC TGAAGATGGTGATGCATGCCAGATCGGGAGGCAATTTGGAAGTGATGGGTC TGATGCTAGGAAAGGTGGATGGTGAAACCATGATCATTATGGACAGTTTTGC TTTGCCTGTGGAGGGCACTGAAACCCGAGTAAATGCTCAGGCTGCTGCATAT GAATACATGGCTGCATACATAGAAAATGCAAAACAGGTTGGCCGCCTTGAAA ATGCAATCGGGTGGTATCATAGCCACCCTGGCTATGGCTGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGCAGTTCCAGGAACCATTTGTAG CAGTGGTGATTGATCCAACAAGAACAATATCCGCAGGGAAAGTGAATCTTGG CGCCTTTAGGACATACCCAAAGGGCTACAAACCTCCTGATGAAGGACCTTCT GAGTACCAGACTATTCCACTTAATAAAATAGAAGATTTTGGTGTACACTGCAA ACAATATTATGCCTTAGAAGTCTCATATTTCAAATCCTCTTTGGATCGCAAATT GCTTGAGCT	391	TKDHHYFKYCKISALALLKM VMHARSGGNLEVMGLMLG KVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIE NAKQVGRLENAIGWYHSH PGYGCWLSGIDVSTQMLN QQFQEPFVAVVIDPTRTISA GKVNLGAFRTYPKGYKPPD EGPSEYQTIPLNKIEDFGVH CKQYYALEVSYFKSSLDRK LLE

Shigella ospG	7	prey54201	191	ACGGATTAATAAGGAACTTAGTGATTTGGCCCGTGACCCTCCAGCACAATGTTCTGCAGGTCCAGTTGGGGATGATATGTTTCATTGGCAAGCCACAATTATGGGACCTAATGACAGCCCATATCAAGGCGGTGTATTCTTTTTGACAATTCATTTTCCTACAGACTACCCCTTCAAACCACCTAAGGTTGCATTTACAACAAGAATTTATCATCCAAATATTAACAGTAATGGCAGCATTTGTCTCGATATTCTAAGATCACAGTGGTCGCCTGCTTTAACAATTTCTAAAGTTCTTTTATCCATTTGTTCACTGCTATGTGATCCAAACCCAGATGACCCCCTAGTGCCAGAGATTGCACGGATCTATAAAACAGACAGAGATAAGTACAACAGAATATCTCGGGAATGGACTCAGAAGTATGCCATGTGA	392	RINKELSDLARDPPAQCSAGPVGDDMFHWQATIMGPNDSPYQGGVFFLTIHFPTDYPFKPPKVAFTTRIYHPNINSNGSICLDILRSQWSPALTISKVLLSICSLLCDPNPDDPLVPEIARIYKTDRDKYNRISREWTQKYAM*
Shigella ospG	7	prey1922	192	AACTGGTGCTGCTCCTGCTAAGGCCAAGCCGGCTGAAGCTCCTGCTGCTGCAGCCCCAAAAGCAGAACCTACAGCAGCGGCAGTTCCTCCCCCTGCAGCACCCATACCCACTCAGATGCCACCGGTGCCCTCGCCCTCACAGCCTCCTTCTGGCAAACCTGTGTCTGCAGTAAAACCCACTGTTGCCCCACCACTAGCTGAGCCAGGAGCTGGCAAAGGTCTGCGTTCAGAACATCGGGAGAAAATGAACAGGATGCGGCAGCGCATTGCTCAGCGTCTGAAGGAGGCCCAGAATACATGTGCAATGCTGACAACTTTTAATGAGATTGACATGAGTAACATCCAGGAGATGAGGGCTCGGCACAAAGAGGCTTTTTTGAAGAAACATAACCTCAAACTAGGCTTCATGTCGGCATTTGTGAAGGCCTCAGCCTTTGCCTTGCAGGAACAGCCTGTTGTAAATGCAGTGATTGACGACACAACCAAAGAGGTGGTGTATAGGGATTATATTGACATCAGTGTTGCAGTGGCCACCCCACGGGGTCTGGTGGTTCCAGTCATCAGGAATGTGGAAGCTATGAATTTTGCAGATATTGAACGGACCATCACTGAACTGGGAGAGAAGGCCCGAAAGAATGAACTTGCCATTGAAGATATGGATGGCGGTACCTTCACCATTAGCAATGGAGGCGTTTTTGGCTCGCTCTTTGGAACACCCATTATCAACCCCCCTCAGTCTGCCATCCTGGGGATGCATGGCATCTTTGACAGGCCAGTGGCTATAGGAGGCAAGGTAGAGGTGCGGCCCATGATGTACGTGGCACTGACCTATGATCACCGGCTGATTGATGGCAGAGAGGCTGTGACTTTCCTCCGCAAAATCAAGGCAGCGGTAGAGGATCCCAGAGTCCTCCTCCTGGATCTTTAG	393	TGAAPAKAKPAEAPAAAAPKAEPTAAAVPPPAAPIPTQMPPVPSPSQPPSGKPVSAVKPTVAPPLAEPGAGKGLRSEHREKMNRMRQRIAQRLKEAQNTCAMLTTFNEIDMSNIQEMRARHKEAFLKKHNLKLGFMSAFVKASAFALQEQPVVNAVIDDTTKEVVYRDYIDISVAVATPRGLVVPVIRNVEAMNFADIERTITELGEKARKNELAIEDMDGGTFTISNGGVFGSLFGTPIINPPQSAILGMHGIFDRPVAIGGKVEVRPMMYVALTYDHRLIDGREAVTFLRKIKAAVEDPRVLLLDL*
Shigella ospG	7	prey67418	193	GGCGGCCAGCAGGAGGCTGATGAAGGAGCTTGAAGAAATCCGCAAATGTGGGATGAAAAACTTCCGTAACATCCAGGTTGATGAAGCTAATTTATTGACTTGGCAAGGGCTTATTGTTCCTGACAACCCTCCATATGATAAGGGAGCCTTCAGAATCGAAATCAACTTTCCAGCAGAGTACCCATTCAAACCACCGAAGATCACATTTAAAACAAAGATCTATCACCCAAACATCGACGAAAAGGGGCAGGTCTGTCTGCCAGTAATTAGTGCCGAAAACTGGAAGCCAGCAACCAAAACCGACCAAGTAATCCAGTCCCTCATAGCACTGGTGAATGACCCCCAGCCTGAGCACCCGCTTCGGGCTGACCTAGCTGAAGAATACTCTAAGGACCGTAAAAAATTCTGTAAGAATGCTGAAGAGTTTACAAAGAAATATGGGGAAAAGCGACCTGTGGACTAA	394	AASRRLMKELEEIRKCGMKNFRNIQVDEANLLTWQGLIVPDNPPYDKGAFRIEINFPAEYPFKPPKITFKTKIYHPNIDEKGQVCLPVISAENWKPATKTDQVIQSLIALVNDPQPEHPLRADLAEEYSKDRKKFCKNAEEFTKKYGEKRPVD*
Shigella ospG	7	prey67314	194	ATGATGGCGAGCATGCGAGTGGTGAAGGAGCTGGAGGATCTTCAGAAGAAGCCTCCCCCATACCTGCGGAACCTGTCCAGCGATGATGCCAATGTCCTGGTGTGGCACGCTCTCCTCCTACCCGACCAACCTCCCTACCACCTGAAAGCCTTCA	395	MMASMRVVKELEDLQKKPPPYLRNLSSDDANVLVWHALLLPDQPPYHLKAFNLRISF

				ACCTGCGCATCAGCTTCCCGCCGGAGTATCCGTTCAAGCCTCCCATGATCAA ATTCACAACCAAGATCTACCACCCCAACGTGGACGAGAACGGACAGATTTGC CTGCCCATCATCAGCAGTGAGAACTGGAAGCCTTGCACCAAGACTTGCCAA GTCCTGGAGGCCCTCAATGTGCTGGTGAATAGACCGAATATCAGGGAGCCC CTGCGGATGGACCTCGCTGACCTGCTGACACAGAATCCGGAGCTGTTCAGA AAGAATGCCGAAGAGTTCACCCTCCGATTCGGAGTGGACCGGCCCTCCTAA		PPEYPFKPPMIKFTTKIYHP NVDENGQICLPIISSENWKP CTKTCQVLEALNVLVNRPNI REPLRMDLADLLTQNPELF RKNAEEFTLRFGVDRPS*
Shigella ospG	7	prey67435	195	ATGTCAGTTGGGCACAAGGCCCAGGAGAGCAAGATTCGATACAAAACCAAT GAACCTGTGTGGGAGGAAAACTTCACTTTCTTCATTCACAATCCCAAGCGCC AGGACCTTGAAGTTGAGGTCAGAGACGAGCAGCACCAGTGTTCCCTGGGGA ACCTGAAGGTCCCCCTCAGCCAGCTGCTCACCAGTGAGGACATGACTGTGA GCCAGCGCTTCCAGCTCAGTAACTCGGGTCCAAACAGCACCATCAAGATGA AGATTGCCCTGCGGGTGCTCCATCTCGAAAAGCGAGAAAGGCCTCCAGACC	396	MSVGHKAQESKIRYKTNEP VWEENFTFFIHNPKRQDLE VEVRDEQHQCSLGNLKVPL SQLLTSEDMTVSQRFQLSN SGPNSTIKMKIALRVLHLEK RERPPD
Shigella ospG	7	prey67443	196	CTGGGATGCCCTCAAGGCTGCCGCCTATGCTGCTGAAGCCAACGACCACGA GCTGGCCCAGGCCATCCTGGATGGAGCCAGCATCACCCTGCCTCATGGCAC CCTCTGTGAATGCTACGATGAGCTGGGCAATCGCTACCAGCTGCCCATCTAC TGCCTGTCACCGCCGGTGAACCTGCTGCTGGAGCACACGGAGGAGGAGAG CCTGGAGCCCCCCGAGCCTCCACCCAGCGTGCGCCGTGAGTTCCCGCTGA AGGTGCGCCTGTCCACGGGCAAGGACGTGAGGCTCAGCGCCAGCCTGCCC GACACAGTGGGGCAGCTCAAGAGGCAGCTGCACGCCCAGGAGGGCATCGA GCCATCGTGGCAGCGGTGGTTCTTCTCCGGGAAGCTGCTCACAGACCGCAC ACGGCTCCAGGAGACCAAGATCCAGAAAGATTTTGTCATCCAGGTCATCATC AAC	397	WDALKAAAYAAEANDHELA QAILDGASITLPHGTLCECY DELGNRYQLPIYCLSPPVN LLLEHTEEESLEPPEPPPSV RREFPLKVRLSTGKDVRLS ASLPDTVGQLKRQLHAQE GIEPSWQRWFFSGKLLTDR TRLQETKIQKDFVIQVIIN
Shigella ospG	7	prey67317	197	CGTCTGTGCCGTCTGCCGCAAGAAGTTCGTCAGCTCCATCAGGCTGCGCAC CCACATCAAAGAGGTGCACGGGGCTGCCCAGGAGGCCTTGGTCTTCACCAG TTCCATCAACCAGAGCTTCTGCCTCCTGGAACCTGGTGGGGACATCCAGCAA GAAGCTCTGGGGGACCAGCTACAGCTGGTGGAAGAGGAGTTTGCCCTCCAG GGCGTGA	398	SVPSAARSSSAPSGCAPTS KRCTGLPRRPWSSPVPST RASASWNLVGTSSKKLWG TSYSWWKRSLPSRA*
Shigella ospG	7	prey67393	198	GAGAATCCACAAGGAATTGAATGATCTGGCACGGGACCCTCCAGCACAGTG TTCAGCAGGTCCTGTTGGAGATGATATGTTCCATTGGCAAGCTACAATAATG GGGCCAAATGACAGTCCCTATCAGGGTGGAGTATTTTTCTTGACAATTCATTT CCCAACAGATTACCCCTTCAAACCACCTAAGGTTGCATTTACAACAAGAATTT ATCATCCAAATATTAACAGTAATGGCAGCATTTGTCTTGATATTCTACGATCA CAGTGGTCTCCAGCACTAACTATTTCAAAAGTACTCTTGTCCATCTGTTCTCT GTTGTGTGATCCCAATCCAGATGATCCTTTAGTGCCTGAGATTGCTCGGATC TACAAAACAGATAGAGAAAAGTACAACAGAATAGCTCGGGAATGGACTCAGA AGTATGCGATGTAA	399	RIHKELNDLARDPPAQCSA GPVGDDMFHWQATIMGPN DSPYQGGVFFLTIHFPTDY PFKPPKVAFTTRIYHPNINS NGSICLDILRSQWSPALTIS KVLLSICSLLCDPNPDDPLV PEIARIYKTDREKYNRIARE WTQKYAM*
Shigella ospG	7	prey700	199	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGATAAGCATTCATATGGTTACCATGGGGATGATGGACATTCGTTTTGTTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACTACTGGTGATGTCATTG	400	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSFCSS GTGQPYGPTFTTGDVIGCC

				GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTGACCTACCGCCAAATTTGTATCCTACTGTGGG GCTTCAAACACCAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAATGGCAGACCATGAT ACAAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGCCTTTGCCAGATCTACAGACCAGACCGTTCTAGAAGAATTAGCTTCCAT TAAGAATAGACAAAGAATTCAGAAATTGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAAACAACACAAC		VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMIQKMVSSYLVH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAIETTQ
Shigella ospG	7	prey67411	200	GCCTGAAGAACAAGAGGAAAGAAAACCTTCTGCCACCCAGCAGAAGAAAAA CACCAAACTCTCTAGCAAAACCACTGCTAAGTTATCCACTAGTGCTAAAAGAA TTCAGAAGGAGCTAGCTGAAATAACCCTTGATCCTCCTCCTAATTGCAGTGC TGGGCCTAAAGGAGATAACATTTATGAATGGAGATCAACTATACTTGGTCCA CCGGGTTCTGTATATGAAGGTGGTGTGTTTTTTCTGGATATCACATTTTCATC AGATTATCCATTTAAGCCACCAAAGGTTACTTTCCGCACCAGAATCTATCACT GCAACATCAACAGTCAGGGAGTCATCTGTCTGGACATCCTTAAAGACAACTG GAGTCCCGCTTTGACTATTTCAAAGGTTTTGCTGTCTATTTGTTCCCTTTTGA CAGACTGCAACCCTGCGGATCCTCTGGTTGGAAGCATAGCCACTCAGTATTT GACCAACAGAGCAGAACACGACAGGATAGCCAGACAGTGGACCAAGAGATA CGCAACATAA	401	PEEQEERKPSATQQKKNT KLSSKTTAKLSTSAKRIQKE LAEITLDPPPNCSAGPKGD NIYEWRSTILGPPGSVYEG GVFFLDITFSSDYPFKPPKV TFRTRIYHCNINSQGVICLDI LKDNWSPALTISKVLLSICS LLTDCNPADPLVGSIATQYL TNRAEHDRIARQWTKRYAT *
Shigella ospG	7	prey67423	201	ATGAGTTCTCAACAGTTTCCTCGGTTAGGAGCCCCTTCTACCGGGCTGAGCC AGGCCCCTTCTCAGATTGCAAACAGTGGTTCTGCTGGATTGATAAACCCAGC TGCTACAGTCAATGATGAATCTGGTCGAGATTCTGAAGTCAGTGCCAGGGAG CACATGAGTTCCAGCAGCTCCCTCCAGTCCCGGGAGGAGAAGCAAGAGCCT GTTGTGGTAAGGCCCTATCCACAGGTGCAGATGTTGTCGACACACCATGCTG TCGCATCAGCCACACCTGTTGCAGTGACAGCCCCGCCAGCACACCTGACGC CAGCAGTGCCACTTTCATTTTCGGAGGGACTTATGAAGCCGCCCCCGAAGC CCACCATGCCTAGCCGTCCCATTGCTCCTGCTCCACCTTCTACCCTGTCACT TCCCCCCAAGGTTCCAGGGCAGGTTACCGTTACCATGGAGAGTAGCATCCC TCAAGCTTCAGCCATTCCTGTGGCAACAATCAGTGGACAACAGGGCCATCCC AGTAACCTGCATCACATCATGACTACAAATGTGCAAATGTCTATCATCCGCAG CAATGCTCCTGGGCCCCCTCTTCACATTGGAGCTTCTCATTTACCTCGAGGT GCAGCTGCTGCTGCTGTGATGTCCAGTTCTAAAGTAACCACAGTCCTGAGGC CGACCTCACAGCTGCCAAATGCTGCTACTGCTCAGCCAGCAGTACAGCACAT CATTCACC	402	MSSQQFPRLGAPSTGLSQ APSQIANSGSAGLINPAATV NDESGRDSEVSAREHMSS SSSLQSREEKQEPVVVRPY PQVQMLSTHHAVASATPVA VTAPPAHLTPAVPLSFSEG LMKPPPKPTMPSRPIAPAP PSTLSLPPKVPGQVTVTME SSIPQASAIPVATISGQQGH PSNLHHIMTTNVQMSIIRSN APGPPLHIGASHLPRGAAA AAVMSSSKVTTVLRPTSQL PNAATAQPAVQHIIH
Shigella ospG	7	prey67298	202	GATATTCTAGGTGTTAGGGTGCTGCAATCCCCTGGAACTGTATTAGTTGATTT TATTTCATGAGTGTGCATAAAACACCTTCTATCTATGGGACTGGCATGGGGC TTGGTGCTTANAACATATAGATGAACAAGATCTTTGCTAGCAAGGAGCTGAG AGCTTAGTGAAGAAAGAGTGAAAAGTCCACAGTGAGAACATGGAGGNGCAC	403	DILGVRVLQSPGTVLVDFIS *VCIKHLLSMGLAWGLVLXT YR*TRSLLARS*ELSEERVK SPQ*EHGGAHTWAAGTLP

				ATACCTGGGCTGCAGGCACACTGCCTNTGCCTGATCCAGTCCTGACACTGA AAAATGTGNNCATGATANGAAGANGGGGG		XPDPVLTLKNVXMIXRXG
Shigella ospG	7	prey67464	203	NTTGNTGGGTGNGNTNGGGGTGATAAGGAAAGAGTGTGAGAAAATGGCATC AAACAGGGAACAAGTAAGAGGTCTGGTGGCAAGCGGACAAGAGATGAGTCC GTCAACCCCCACAACTGAGACTTGAGAGGGATGAGTGGGTCCTGAGAACTC AGGCAAAGCTGAGTAGGTGGCCCCACTATCAATTAAAAAAGAGATCAGCTTA CCTGCTACTANTANAGTTACCCTGGGCTCCGATGCANTGATGGCAGTGGGG GCCGGNAGCCGGNGCCCANGGGCCCTGGCCTNATNANTNTTGAG	404	XXGXXXGDKERV*ENGIKQ GTSKRSGGKRTRDESVNP HN*DLRGMSGS*ELRQS*V GGPTIN*KRDQLTCYXXSY PGLRCXDGSGGRXPXPXG PGLXXXE
Shigella ospG	7	prey67320	204	TCAGTGCCTGCTAGATACTTTGACAAGTTGGCTAGAACAGCGTTGTTCAGAT GGAGCATAGAACATCGAGATTACTTTTCTTCACCATGGCAATTGAGTACTGAT CTTTGTCTTCCATCTCTTAAGTACATTTACTTCTGAACTATGTATGCTATATAA TTCATATCTGTGATAGTAGTGGGTGACTTGATAGATATTATCTGGCTATGTGT ACTTCCATGTTAGCAAGTGATTTATGTGTCAAAGTTTCTACCCAGTGGGAATT AGGTCAGTTTAATTTTG	405	SVPARYFDKLARTALFRWS IEHRDYFSSPWQLSTDLCL PSLKYIYF*TMYAI*FISVIVV GDLIDIIWLCVLPC*QVIYVS KFLPSGN*VSLIL
Shigella ospG	7	prey67321	205	GTGTTGAGTATNCTCAGANNTNACGTTGCAATTGAAGNNCTGGNTCAGGAAC CCTGAAAAGATGTTNCCAGCTANNGATNAAGCAAGNCCGCTGGTGGGNGTC CCTTNTACCATNTNGGGGCTTTTGNNNNNTTNCTATCAANGCGTGCTTTTCTT TTCCAACTACANANGCACATGGAAGTGGTCACTATCCGCTCTCTCCAGTATT ATANCCATCAGAATNNCTTCTTGCAGGANNNACTGGTTGTGNNGANGCNTNT GTGGGANTTAGACANNGCNGAGNNGGTNTNCGGGGGTTNNT	406	VLSXLRXXVAIEXLXQEP*K DVXSXXXSKXAGGXPXYH XGAFXXXLSXRAFLFQLXX HMEVVTIRSLQYYXHQNXF LQXXLVVXXXXWXLDXAEX VXGGX
Shigella ospG	7	prey35777	206	ATGGGGCCCCTCTCAGCCCCTCCCTGCACAGAGCACATCAAATGGAAGGGG CTCCTGGTCACAGCATCACTTTTAAACTTCTGGAACCTGCCCACCACTGCCC AAGTCACGATTGAAGCCCAGCCACCAAAAGTTTCCGAGGGGAAGGATGTTCT TCTACTTGTCCACAATTTGCCCCAGAATCTTACTGGCTACATCTGGTACAAAG GGCAAATCAGGGACCTCTACCATTACATTACATCATATGTAGTAGACGGTCA AATAATTATATATGGGCCTGCATATAGTGGACGAGAAACAGCATATTCCAATG CATCCCTGCTGATCCAGAATGTCACCCGGGAGGACGCAGGATCCTACACCT TACACATCATAAAGCGAGGTGATGGGACTAGAGGAGTAACTGGATATTTCAC CTTCACCTTATACCTGGAGACTCCCAAGCCCTCCATCTCCAGCAGCAACTTA AACCCCAGGGAGGCCATGGAAACTGTGATCTTAACCTGTGATCCTGAGACTC CGGACACAAGCTACCAGTGGTGGATGAATGGTCAGAGCCTCCCTATGACTC ATAGGTTTCAGCTGTCCGAAACCAACAGGACCCTCTTTCTATTTGGTGTCACA AAGTATACTGCAGGACCCTATGAATGTGAAATACGGAACTCAGGGAGTGCCA GCCGCAGTGACCCAGTCACCCTGAATCTCCTCCATGGTCCAGACCTCCCCA GAATTCACCCTTCATACACCAATTACCGTTCAGGAGATAACCTCTACTTGTCT TGCTTCGCGAACTCTAACCCACCGGCACAGTATTCTTGGACAATTAATGGGA AGTTTCAGCAATCAGGACAAAATCTGTTTATCCCCCAAATTACTACAAAGCAT AGCGGGCTCTATGTTTGCTCTGTTCGTAACTCAGCCACTGGGCAGGAAAGCT CCACATCGTTGACAGTCAAAGTCTCTGCTTCTACAAGAATAGGACTTCTTCCT	407	MGPLSAPPCTEHIKWKGLL VTASLLNFWNLPTTAQVTIE AQPPKVSEGKDVLLLVHNL PQNLTGYIWYKGQIRDLYH YITSYVVDGQIIIYGPAYSGR ETAYSNASLLIQNVTREDA GSYTLHIIKRGDGTRGVTG YFTFTLYLETPKPSISSSNL NPREAMETVILTCDPETPD TSYQWWMNGQSLPMTHR FQLSETNRTLFLFGVTKYTA GPYECEIRNSGSASRSDPV TLNLLHGPDLPRIHPSYTNY RSGDNLYLSCFANSNPPAQ YSWTINGKFQQSGQNLFIP QITTKHSGLYVCSVRNSAT GQESSTSLTVKVSASTRIGL LPLLNPT*

				CTCCTTAATCCAACATAG		
Shigella ospG	7	prey67327	207	GCAGGCTTTGAACTTTACCCGTTTTCTTGACCAGTCAGGACCCCCATCTGGG GATGTGAATTCCCTTGATAAGAAGTTGGTGCTGGCATTCAGGCACCTGAAGC TGCCCACGGAGTGGAATGTATTGGGGACAGATCAGAGTTTGCATGATGCTG GCCCGCGAGAGACATTGATGCATTTTGCTGTGCGGCTGGGACTGCTGAGGT TGACGTGGTTCCTGTTGCAGAAGCCAGGTGGCCGCAGAGCTCTCAGTATCC ACAACCAGGAAGGGGCGACGCCTGTGAGCTTGGCCTTGGAGCGAGGCTAT CACAAGCTGCACCAGCTTCTAACCGAGGAGAATGCTGGAGAACCAGACTCC TGGAGCAGTTTATCCTATGAAATACCGTATGGAGACTGTTCTGTGAGGCATC ATCGAGAGTTGGACATCTATACATTAACCTCTGAGTCTGATTCACATCATGAA CACCCATTTCCTGGAGACGGTTGCACTGGACCAATTTTTAAACTTATGAACAT CCAACAGCAACTAATGAAAACAAACCTCAAGCAGATGGACAGTCTTATGCCC TTAATGATGACAGCACAGGATCCTTCCAGTGCCCCAGAGACAGATGGCCAGT TTCTTCCCTGTGCACCGGAGCCCACGGACCCTCAGCGACTTTCTTCTTCTGA AGAGACTGAGAGCACTCAGTGCTGCCCAGGGAGCCC	408	QALNFTRFLDQSGPPSGDV NSLDKKLVLAFRHLKLPTE WNVLGTDQSLHDAGPRET LMHFAVRLGLLRLTWFLLQ KPGGRRALSIHNQEGATPV SLALERGYHKLHQLLTEEN AGEPDSWSSLSYEIPYGDC SVRHHRELDIYTLTSESDS HHEHPFPGDGCTGPIFKLM NIQQQLMKTNLKQMDSLM PLMMTAQDPSSAPETDGQ FLPCAPEPTDPQRLSSSEE TESTQCCPGS
Shigella ospG	7	prey412	208	GAGCATTGCACCCAAAACTACCCGGGTGACATACCCAGCCAAAGCCAAGGG CACATTCATCGCAGACAGCCACCAGAACTTCGCCTTGTTCTTCCAGCTGGTA GATATGAACACTGGTGCTGAACTCACTCCTCACCAGACATTTGTCCGACTCC ATAACCAGAAGACTGGCCAGGAAGTGGTGTTTGTTGCCGAGCCAGACAACA AGAACGTGTACAAGTTTGAACTGGATACCTCTGAAAGAAAGATTGAATTTGAC TCTGCCTCTGGCACCTACACTCTCTACTTAATCATTGGAGATGCCACTTTGAA GAACCCAATCCTCTGGAATGTGGCTGATGTGGTCATCAAGTTCCCTGAGGAA GAAGCTCCCTCGACTGTCTTGTCCCAGAACCTTTTCACTCCAAAACAGGAAA TTCAGCACCTGTTCCGCGAGCCTGAGAAGAGGCCCCCCACCG	409	SIAPKTTRVTYPAKAKGTFI ADSHQNFALFFQLVDMNT GAELTPHQTFVRLHNQKTG QEVVFVAEPDNKNVYKFEL DTSERKIEFDSASGTYTLYL IIGDATLKNPILWNVADVVIK FPEEEAPSTVLSQNLFTPK QEIQHLFREPEKRPPT
Shigella ospG	7	prey50598	209	CCTCCGTGTCCGCAGCCTGCCCGGAGAGGACCTGAGGGCCCGTGTTAGCT ACAGGCTGCTGGGGGTCATCTCACTGCTGCACCTGGTGCTGTCCATGGGGC TGCAGCTGTACGGTTTCAGGCAGCGGCAGCGAGCCAGGAAGGAGTGGAGG CTGCACCGCGGCCTGTCTCACCGCAGGGCCTCCTTGGAGGAGAGAGCCGT TTCCAGAAACCCCCTGTGCACCCTGTGCCTGGAGGAGCGCAGGCACCCAAC AGCCACGCCCTGCGGCCACCTGTTCTGCTGGGAGTGCATCACCGCGTGGTG CAGCAGCAAGGCGGAGTGTCCCCTCTGCCGGGAGAAGTTCCCTCCCCAGAA GCTCATCTACCTTCGGCACTACCGCTGA	410	LRVRSLPGEDLRARVSYRL LGVISLLHLVLSMGLQLYGF RQRQRARKEWRLHRGLSH RRASLEERAVSRNPLCTLC LEERRHPTATPCGHLFCW ECITAWCSSKAECPLCREK FPPQKLIYLRHYR*
Shigella ospG	7	prey67364	210	TTATTAAATGAAACAACAGTGGAAATATAGCCAGACCTGACTAACCTTGCCTG TATTTTCTTGTAGGCAGGAGAAAATCAGAGGCATCAAGATCTGGTAGAAGGG CCGGTCTGCTGTTTAACACATACCAGCAGACAGGTCCCACGTGGGAGGCAC CACAGACCTTTAAGATAGGGTGAAGCCTTGATAGAAGGAGAAACAGAAGCTG CCCACTGTCTTTACTTAGAAGTGGAGAACATGGNATTCTGTATTTATTTATGT TGACTGCGCANCTTTACNTTTNTAAACC	411	LLNETTVEI*PDLTNLACIFL* AGENQRHQDLVEGPVCCL THTSRQVPRGRHHRPLR*G EALIEGETEAAHCLYLEVEN MXFCIYLC*LRXFTFXN
Shigella	7	prey67367	211	ATCCAGCAAAACCGCTGCTAAATTGTCAACTAGTGCTAAAAGAATTCAGAAG	412	SSKTAAKLSTSAKRIQKELA

ospG				GAACTTGCAGAAATCACATTGGACCCTCCTCCCAACTGTAGTGCTGGACCCAAAGGAGACAACATTTATGAATGGAGGTCAACTATATTGGGACCCCCAGGATCTGTCTATGAAGGAGGGGTGTTCTTTCTTGACATTACCTTTTCACCAGACTATCCGTTTAAACCCCCTAAGGTTACCTTCCGAACAAGAATCTATCACTGTAATATTAACAGCCAAGGTGTGATCTGTCTGGACATCTTAAAGGACAACTGGAGTCCGGCTTTAACTATTTCTAAAGTTCTCCTCTCCATCTGCTCACTTCTTACAGATTGCAACCCTGCTGACCCTCTGGTGGGCAGCATCGCCACACAGTACATGACCAACAGAGCAGAGCATGACCGGATGGCCAGACAGTGGACCAAGCGGTACGCCACATAG		EITLDPPPNCSAGPKGDNIYEWRSTILGPPGSVYEGGVFFLDITFSPDYPFKPPKVTFRTRIYHCNINSQGVICLDILKDNWSPALTISKVLLSICSLLTDCNPADPLVGSIATQYMTNRAEHDRMARQWTKRYAT*
Shigella ospG	7	prey67369	212	GTTGCAATGAGCCGAGATGGTGCCACTCATGTATATGAAACTCATCCATGGTGGAACTTTTTTCAGATGTGTGAGCTCTGTAACCTTTTAAGGTCCTGGAAACATAGTATTTTTAAAAGTACACTGTATATCTCTATCAGGAAATTAAAATTGTTAGCTTATATCTACATTTCAATAAAATGTAAGCCTGTTGCTATGTTGATAGCAAATCTGTTTAACTTACTGGTCATTAGGCTGTTACGTACGTCAATGAACTGGTGAAAGGAGAAAATTTATGAAACATANCTCAAC	413	VAMSRDGATHVYETHPWWNFFQMCELCNLLRSWKHSIFKSTLYISIRKLKLLAYIYISIKCKPVAMLIANLFNLLVIRLLRTSMNW*KEKIYETXLN
Shigella ospG	7	prey67372	213	GAGATAAGGTGATGTCAGAGTTTAATAACAACTTCCGGCAGCAGATGGAGAATTACCCGAAAAACAACCACACTGCTTCGATCCTGGACAGGATGCAGGCAGATTTTAAGTGCTGTGGGGCTGCTAACTACACAGATTGGGAGAAAATCCCTTCCATGTCGAAGAACCGAGTCCCCGACTCCTGCTGCATTAATGTTACTGTGGGCTGTGGGATTAATTTCAACGAGAAGGCGATCCATAAGGAGGGCTGTGTGGAGAAGATTGGGGGCTGGCTGAGGAAAAATGTGCTGGTGGTAGCTGCAGCAGCCCTTGGAATTGCTTTTGTCGAGGTTTTGGGAATTGTCTTTGCCTGCTGCCTCGTGAAGAGTATCAGAAGTGGCTACGAGGTGATGTAG	414	DKVMSEFNNNFRQQMENYPKNNHTASILDRMQADFKCCGAANYTDWEKIPSMSKNRVPDSCCINVTVGCGINFNEKAIHKEGCVEKIGGWLRKNVLVVAAAALGIAFVEVLGIVFACCLVKSIRSGYEVM*
Shigella ospG	7	prey67379	214	NAAANCNGTCTTAATCGCCACNTACTTCTCCNNNNCACATGTAAAACATANTTGNTGTTNNGGGCCACNGNNGGCTGTNANTACTGNATTTNANATNNNTATTGGNNNCTNGCACATGTTAAAGGNNNCACAGTTTCTGNACTCTAGGAGANATTCTTGNCCTGTTAGNGTNAAAGTACTTTTCACTNGATAAGCTATGNTGACGTTNCTTATNAGAACNGNNNTTANTGNTGANTGCATGATNTCCATTCATNATGTATTTGCCATGAGNNGCTAATTNNCAANACGTGTCGTAATGAGAATAA	415	XXXLNRHXLLXXTCKTXLXXXATXGCXYXIXXXYWXLAHVKGXTVSXL*EXFLXC*XXSTFHXISYXDVXYXNXXXX*XHDXHSXCICHEXLIXXTCRNEN
Shigella ospG	7	prey67381	215	ATGACAGTCCAAGCACTAGTGGAGGAAGTTCCGATGGAGATCAACGTGAAAGTGTTCAGCAAGAACCAGAAAGAGAACAAGTTCAGCCCAAGAAAAAGGAGGGAAAAATATCCAGCAAAACCGCTGCTAAATTGTCAACTAGTGCTAAAAGAATTCAGAAGGAACTTGCAGAAATCACATTGGACCCTCCTCCCAACTGTAGTGCTGGACCCAAAGGAGACAACATTTATGAATGGAGGTCAACTATATTGGGACCCCCAGGATCTGTCTATGAAGGAGGGGTGTTCTTTCTTGACATTACCTTTTCACCAGACTATCCGTTTAAACCCCCTAAGGTTACCTTCCGAACAAGAATCTATCACTGTAATATTAACAGCCAAGGTGTGA	416	MTVQALVEEVPMEINVKVFSKNQKENKFSPRKRREKYPAKPLLNCQLVLKEFRRNLQKSHWTLLPTVVLDPKETTFMNGGQLYWDPQDLSMKEGCSFLTLPFHQTIRLNPLRLPSEQESITVILTAKV*